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SEQUENCE LISTING

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<120> COMPOSITIONS AND METHODS FOR TREATMENT AND
DIAGNOSIS OF CHLAMYDIAL INFECTION

<130> 210121.469C4

<140> US/09/454,684
<141> 1999-12-03

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<212> DNA
<213> Chlamydia trachomatis

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cacatcatTA aataAAATAG aaATTGACTC acgtgttCCT cgtcttaAG atGAGGAACT	420
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aaggagaATA gtctcaAGA tcctacAAAC aaACGTAATA tcaatcccGA tgataAAATTG	120
gctaaAGTT ttggAACTGA AAAACCTATC gatATGTTCC aaATGACAaaa aATGGTTCT	180
caa	183

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 tagggccagc tcttctaa gagattattt ctagattgca gttgaatccc gaagcttagag 180
 ctgcagagg t gactgaggaa gaggttggc gactaacgc tctttacag tcggattac 240
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 caaattctcg cacgcgtaag ggttaaacgta aaactattgc aggttaagaag aataataat 420
 ttttaggaga gagtgtttg gttaaaaatc aagcgcaaaa aagaggcgt aaaaagaaaaac 480
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 taaccataac agacc 555

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 <213> Chlamydia trachomatis

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 Ile Ile Lys Lys Met Trp Asp Tyr Ile Lys Glu Asn Ser Leu Gln Asp
 35 40 45
 Pro Thr Asn Lys Arg Asn Ile Asn Pro Asp Asp Lys Leu Ala Lys Val
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 Phe Gly Thr Glu Lys Pro Ile Asp Met Phe Gln Met Thr Lys Met Val
 65 70 75 80
 Ser Gln His Ile Ile Lys
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<210> 6
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 <212> PRT
 <213> Chlamydia trachomatis

<400> 6
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 Trp Asp Tyr Ile Lys Glu Asn Ser Leu Gln Asp Pro Thr Asn Lys Arg
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<212> PRT
<213> Chlamyida trachomatis

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<213> Chlamydia trachomatis

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Pro Phe

<210> 9
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<212> PRT
<213> Chlamydia trachomatis

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Leu Ala Leu Trp Asn
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<210> 10
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Cys Cys Tyr Arg Val Asn His Asn His Ile Asp
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<210> 11
<211> 36
<212> PRT
<213> Chlamydia trachomatis

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Met Met Ser Gln
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<212> PRT
<213> Chlamydia trachomatis

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35 40 45
Thr Glu Glu Glu Val Gly Arg Leu Asn Ala Leu Leu Gln Ser Asp Tyr
50 55 60
Val Val Glu Gly Asp Leu Arg Arg Arg Val Gln Ser Asp Ile Lys Arg
65 70 75 80
Leu Ile Thr Ile His Ala Tyr Arg Gly Gln Arg His Arg Leu Ser Leu
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Pro Val Arg Gly Gln Arg Thr Lys Thr Asn Ser Arg Thr Arg Lys Gly
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Lys Arg Lys Thr Ile Ala Gly Lys Lys Lys
115 120

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<213> Chlamydia trachomatis

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1 5 10 15
Phe Gln Met Thr
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<210> 15
<211> 161
<212> DNA
<213> Chlymidia trachomatis

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cgcaaccgtt tcttttttcc caaactaaag caaatatggg a 60
120
161

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<212> DNA
<213> Chlymidia trachomatis

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attaagggtg ccaagtctgc	tgccgaattt accgcaaata	ttttggaca acgtggaggc	180
gcgggcttt ccgcacacat	tacagcttcc caagtgtcca	aaggattagg ggtatgcgaga	240
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caaagcttc tcttcacat	gaaagctgtc agtcagaaaa	cgcaagaagg ggatgagggg	360
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ttcacgcgca tcaagtatgc	actcctact atgctcgaga	agtttttggg atgcgttgcc	780
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<211> 298

<212> PRT

<213> Chlamydia trachomatis

<400> 17

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Lys Thr Lys Gly Met Asp Lys Thr Ile Lys Val Ala Lys	Ser Ala Ala	
35 40 45		
Glu Leu Thr Ala Asn Ile Leu Glu Gln Ala Gly	Gly Ala Gly Ser Ser	
50 55 60		
Ala His Ile Thr Ala Ser Gln Val Ser Lys Gly	Leu Gly Asp Ala Arg	
65 70 75 80		
Thr Val Val Ala Leu Gly Asn Ala Phe Asn Gly	Ala Leu Pro Gly Thr	
85 90 95		
Val Gln Ser Ala Gln Ser Phe Phe Ser His Met Lys	Ala Ala Ser Gln	
100 105 110		
Lys Thr Gln Glu Gly Asp Glu Gly Leu Thr Ala Asp	Leu Cys Val Ser	
115 120 125		
His Lys Arg Arg Ala Ala Ala Val Cys Ser Ile Ile	Gly Gly Ile	
130 135 140		
Thr Tyr Leu Ala Thr Phe Gly Ala Ile Arg Pro	Ile Leu Phe Val Asn	
145 150 155 160		
Lys Met Leu Ala Lys Pro Phe Leu Ser Ser Gln	Thr Lys Ala Asn Met	
165 170 175		
Gly Ser Ser Val Ser Tyr Ile Met Ala Ala Asn His	Ala Ala Ser Val	
180 185 190		
Val Gly Ala Gly Leu Ala Ile Ser Ala Glu Arg Ala	Asp Cys Glu Ala	
195 200 205		
Arg Cys Ala Arg Ile Ala Arg Glu Glu Ser Leu	Leu Glu Val Pro Gly	
210 215 220		
Glu Glu Asn Ala Cys Glu Lys Lys Val Ala Gly	Glu Lys Ala Lys Thr	
225 230 235 240		
Phe Thr Arg Ile Lys Tyr Ala Leu Leu Thr Met	Leu Glu Lys Phe Leu	
245 250 255		
Glu Cys Val Ala Asp Val Phe Lys Leu Val Pro	Leu Pro Ile Thr Met	
260 265 270		
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35	40	45
Arg Phe Phe Leu Pro Lys Leu Lys Gln Ile Trp Asp Leu Leu Ala		
50	55	60
Ile Leu Trp Arg Leu Thr Met Gln Arg Leu Trp Trp Val Leu Asp Ser		
65	70	75
Leu Ser Val Arg Lys Glu Gln Ile Ala Lys Pro Ala Ala Leu Val Leu		
85	90	95
Arg Glu Lys Ser Arg Tyr Ser Lys Cys Arg Glu Arg Lys Met Leu Ala		
100	105	110
Arg Arg Lys Ser Leu Glu Arg Lys Pro Arg Arg Ser Arg Ala Ser Ser		
115	120	125
Met His Ser Ser Leu Cys Ser Arg Ser Phe Trp Asn Ala Leu Pro Thr		
130	135	140
Phe Ser Asn Trp Cys Arg Cys Leu Leu Gln Trp Val Phe Val Arg Leu		
145	150	155
Trp Leu Leu Asp Val Arg Ser Leu Leu Gln Leu Leu Asp Cys Ala Leu		
165	170	175
Ser Ala Pro Glu His Lys Gly Phe Phe Lys Phe Leu Lys Lys Lys Ala		
180	185	190
Val Ser Lys Lys Lys Gln Pro Phe Leu Ser Thr Lys Cys Leu Ala Phe		

195	200	205
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210	215	
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<211> 1256		
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<212> DNA		
<213> Chlamydia trachomatis		
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<213> Chlamydia trachomatis		
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<212>	DNA					
<213>	Chlamydia trachomatis					
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20	25	30				
Gly Ser Glu Val Ser Val Ile	Glu Ala Ser Ser Gln	Ile Leu Ala Leu				
35	40	45				
Asn Asn Pro Asp Ile Ser Lys	Thr Met Phe Asp Lys	Phe Thr Arg Gln				
50	55	60				
Gly Leu Arg Phe Val Leu	Glu Ala Ser Val Ser	Asn Ile Glu Asp Ile				
65	70	75	80			
Gly Asp Arg Val Arg Leu	Thr Ile Asn Gly Asn Val	Glu Glu Tyr Asp				
85	90	95				
Tyr Val Leu Val Ser Ile	Gly Arg Arg Leu Asn	Thr Glu Asn Ile	Gly			

100	105	110
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115	120	125
Asp Ala Thr Met Arg Thr Asn Val Pro Asn Ile Tyr Ala	Ile Gly Asp	
130	135	140
Ile Thr Gly Lys Trp Gln Leu Ala His Val Ala Ser His	Gln Gly Ile	
145	150	155
Ile Ala Ala Arg Asn Ile Gly Gly His Lys Glu Glu Ile	Asp Tyr Ser	
165	170	175
Ala Val Pro Ser Val Ile Phe Thr Phe Pro Glu Val Ala	Ser Val Gly	
180	185	190
Leu Ser Pro Thr Ala Ala Gln Gln His Leu Leu Leu Arg	Leu Leu Phe	
195	200	205
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225	230	

<210> 27

<211> 264

<212> DNA

<213> Chlamydia pneumoniae

<400> 27

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ctttccaaac atattgtaaa ataa	264

<210> 28

<211> 87

<212> PRT

<213> Chlamydia pneumoniae

<400> 28

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20	25	30	
Glu Ile Val Lys Lys Val Trp Glu Tyr Ile Lys Lys His Asn Cys Gln			
35	40	45	
Asp Gln Lys Asn Lys Arg Asn Ile Leu Pro Asp Ala Asn Leu Ala Lys			
50	55	60	
Val Phe Gly Ser Ser Asp Pro Ile Asp Met Phe Gln Met Thr Lys Ala			
65	70	75	80
Leu Ser Lys His Ile Val Lys			
85			

<210> 29

<211> 369

<212> DNA

<213> Chlamydia pneumoniae

<400> 29

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cctgaggcaa gagcctctga attaactgaa gaagaagtag gacgactgaa ctctctgcta	180
caatcagaat ataccgtaga aggggatttgcgacgtcgta ttcaatcgga tatcaaaaaga	240
ttgatcgcca tccattctta tcgaggtcag agacatagac tttcttacc agtaagagga	300
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<211> 122

<212> PRT

<213> Chlamydia pneumoniae

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20 25 30	
Ile Ile Lys Lys Leu Lys Leu Asp Pro Glu Ala Arg Ala Ser Glu Leu	
35 40 45	
Thr Glu Glu Glu Val Gly Arg Leu Asn Ser Leu Leu Gln Ser Glu Tyr	
50 55 60	
Thr Val Glu Gly Asp Leu Arg Arg Arg Val Gln Ser Asp Ile Lys Arg	
65 70 75 80	
Leu Ile Ala Ile His Ser Tyr Arg Gly Gln Arg His Arg Leu Ser Leu	
85 90 95	
Pro Val Arg Gly Gln Arg Thr Lys Thr Asn Ser Arg Thr Arg Lys Gly	
100 105 110	
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115 120	

<210> 31

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in the lab

<400> 31

Cys Ser Phe Ile Gly Gly Ile Thr Tyr Leu	
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<210> 32

<211> 53

<212> PRT

<213> Chlamydia trachomatis

<400> 32

Leu Cys Val Ser His Lys Arg Arg Ala Ala Ala Ala Val Cys Ser Phe	
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20 25 30	
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<210> 33

<211> 161
 <212> DNA
 <213> Chlamydia trachomatis

<400> 33
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<210> 34
 <211> 53
 <212> PRT
 <213> Chlamydia trachomatis

<400> 34
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 1 5 10 15
 Ile Gly Gly Ile Thr Tyr Leu Ala Thr Phe Gly Ala Ile Arg Pro Ile
 20 25 30
 Leu Phe Val Asn Lys Met Leu Ala Lys Pro Phe Leu Ser Ser Gln Thr
 35 40 45
 Lys Ala Asn Met Gly
 50

<210> 35
 <211> 55
 <212> DNA
 <213> Chlamydia pneumoniae

<400> 35
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<210> 36
 <211> 33
 <212> DNA
 <213> Chlamydia pneumoniae

<400> 36
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<210> 37
 <211> 53
 <212> DNA
 <213> Chlamydia pneumoniae

<400> 37
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<210> 38
 <211> 30
 <212> DNA
 <213> Chlamydia pneumoniae

<400> 38
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<210> 39
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in the lab

<400> 39
Lys Arg Asn Ile Asn Pro Asp Asp Lys Leu Ala Lys Val Phe Gly Thr
1 5 10 15

<210> 40
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> made in the lab

<400> 40
Lys Arg Asn Ile Leu Pro Asp Ala Asn Leu Ala Lys Val Phe Gly Ser
1 5 10 15

<210> 41
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> made in the lab

<400> 41
Lys Glu Tyr Ile Asn Gly Asp Lys Tyr Phe Gln Gln Ile Phe Asp
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<210> 42
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> made in the lab

<400> 42
Lys Lys Ile Ile Ile Pro Asp Ser Lys Leu Gln Gly Val Ile Gly Ala
1 5 10 15

<210> 43
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> made in the lab

<400> 43

<210> 44 -

<211> 509

<212> DNA

<213> Chlamydia

<400> 44

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tgctgcagcc	gtgttggaga	tacaagatct	tgtgcctcat	ttacaggatg	tagtccaaaa	240
tacacaatta	gatggaacgg	aaagaagaga	agcttggaga	tctttatgtg	ttcttactcg	300
gcctcatagt	ggtgtattaa	ctggcataga	tcaagctta	atgacctgtg	agatgttaaa	360
ggaatatcct	gaaaagtgt	cggaagaaca	gattcgtaca	ttatggctg	cagatcatcc	420
agaagtgcag	gtagctactt	tacagatcat	tctgagagaga	ggtagagtat	tccggtcatc	480
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<210> 45

<211> 481

<212> DNA

<212> DNA

<220>

<221> unsure

<222> (23)

<223> n=A, T, C or G

<400> 45

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ttgcaaccgc acgcgattga atgatacgca agccattttc atcatggaaa agaacccctg 180
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atccgccttat ggtAACGCAA ttagctgttag taggaagatc aactccaaac aggtcataga 420
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<210> 46

<211> 427

<212> DNA

<212> DNA

5220>

<221> unsure

<221> gns3
<222> (20)

<223> n=A, T, C or G

<400> 46

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tgcttgctt tcgtaagaaa gtcgttatca tcgatattag gcttaagctt aacctcttg 300
atacgcacctt ggtgctgtgc tttcttacta tctttttttt ttttagttat gtcgtaacqg 360

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 cgaattc 427

<210> 47
 <211> 600
 <212> DNA
 <213> Chlamydia

<220>
 <221> unsure
 <222> (522)
 <223> n=A,T,C or G

<400> 47

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 gatagtacag tccaagatata tttagacaaa atcacaacag acccttcctt aggtttgtt 180
 aaagctttta acaacttcc aatcactaat aaaattcaat gcaacgggtt attcactccc 240
 aggaacattt aaactttatt aggaggaact gaaataggaa aattcacagt cacacccaaa 300
 agctctggga gcatgttctt agtctcagca gatattattt catcaagaat ggaaggcggc 360
 gttgttctag ctgggttacg agaaggttat tctaagccct acgcgattag ttatggatac 420
 tcatacggcg ttcttaattt atgttagtcta agaaccagaa ttattaatac aggattgact 480
 ccgacaacgt attcattacg tgttaggcgtt ttagaaagcg gngtggatg ggttaatgcc 540
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<210> 48
 <211> 600
 <212> DNA
 <213> Chlamydia

<400> 48

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 atccagaaga taaattggat tgccgggtcta ggtcagcaag taacactttt ttccctaaaa 240
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 aagagcaaaa aactaaggtg tgcaaatcaa ctccaaacgtt agagtaagtt atctattcag 360
 ctttggaaaaa catgtctttt cttagacaaga taagcataat caaagccctt tttagctta 420
 aactgttatac ctcttaatttt tcaagaacag gagagtctgg gaataatccctt aaagagtttt 480
 ctatttggtg aagcagtcctt agaatttagtgg agacactttt atggtagatgt tctaaggag 540
 aatttaagaa agttactttt tccttggat ttcgtatattt taggtctaat tcggggaaat 600

<210> 49
 <211> 600
 <212> DNA
 <213> Chlamydia

<400> 49

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 gatagtacag tccaagatata tttagacaaa atcacaacag acccttcctt aggtttgtt 180
 aaagctttta acaacttcc aatcactaat aaaattcaat gcaacgggtt attcactccc 240
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 agctctggga gcatgttctt agtctcagca gatattattt catcaagaat ggaaggcggc 360
 gttgttctag ctgggttacg agaaggttat tctaagccct acgcgattag ttatggatac 420
 tcatacggcg ttcttaattt atgttagtcta agaaccagaa ttattaatac aggattgact 480
 ccgacaacgt attcattacg tgttaggcgtt ttagaaagcg gngtggatg ggttaatgcc 540

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<210> 50

<211> 406

<212> DNA

<213> Chlamydia

<400> 50

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 cattaaccac aacataatca aattcgctag cgccagcaat ttgcacagcg ctatgctcta 240
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 cttcttgaga gggagcttga ataaaaatgt gactgccggc atttgcttgc tcagagccaa 360
 agctccttgtt acatcaatca cgctatgca gtctcgccg gaattc 406

<210> 51

<211> 602

<212> DNA

<213> Chlamydia

<400> 51

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 cccaggaaca ttgaaactttt attaggagga actgaaatag gaaaatttcac agtcacacccc 180
 aaaagctctg ggagcatgtt tttagtctca gcagatatta ttgcataaag aatggaaaggc 240
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 tactcatca ggcgttctaa ttatgttagt ctaagaacca gaattattaa tacaggattt 360
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 gccctttcttta atggcaatga tatttttaga ataacaaata cttctaatgtt atctttttt 480
 gaggttaatac ctcaaaacaaa cgcttaaaca atttttattt gatttttctt ataggttta 540
 tatttttaga aaaaagttcg aattacgggg ttgttatgc aaaataaaactt cgtgccaaat 600
 tc 602

<210> 52

<211> 145

<212> DNA

<213> Chlamydia

<400> 52

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 caaatataactt ccaagtaattt ctttttctctt ttcaacaac tccttaggag agcgttggat 120
 aacattttca gctcgccg aattt 145

<210> 53

<211> 450

<212> DNA

<213> Chlamydia

<400> 53

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ctgcaggcaa ataaggctcg tgccgaattc 450

<210> 54
<211> 716
<212> DNA
<213> Chlamydia

<400> 54
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aaaaatgatc gacaaggagc acgctaaatt tgtacatacc ccaaaatcaa tcagccatct 660
aggcaaatgg aatatcaaag taaacagttt acaactgggg atctcgtgcc gaattc 716

<210> 55
<211> 463
<212> DNA
<213> Chlamydia trachomatis

<400> 55
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tttaccccttcc ctgaagtcgc ttctacttccaa cag 463

<210> 56
<211> 829
<212> DNA
<213> Chlamydia trachomatis

<400> 56
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tgcagagagc cagcgaggct tcaataatgt tgaagtctcc gacaccaggc aatgctaagg 720
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<210> 57
 <211> 1537
 <212> DNA
 <213> Chlamydia trachomatis

<400> 57
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 ttttacagcc ggcattccggc ttctcgcaaa gtataac 1537

<210> 58
 <211> 463
 <212> DNA
 <213> Chlamydia trachomatis

<400> 58
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<210> 59
 <211> 552
 <212> DNA
 <213> Chlamydia trachomatis

<400> 59
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<210> 60

<211> 1180

<212> DNA

<213> Chlamydia trachomatis

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<210> 61

<211> 1215

<212> DNA

<213> Chlamydia trachomatis

<400> 61

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<210> 62
 <211> 688
 <212> DNA
 <213> Chlamydia trachomatis

<400> 62
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 catgccgcac atccgcttct tcattgttctg tgaatatatgc atagtctca ggattggaaa 180
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 aagttagctac ttgcgtttt gctgttccac taggctcatg agcctctaacc tcttctggag 360
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 gaatcgaga taaatattta gaaaggctt tgatatgtaa ataataatgtct ttggcacgag 540
 cctgttaattt ctcttagta agctccccct tcgaccattt cacataaaaac gtgtgttcta 600
 gcatatgctt attttaata attaaatcta actgatctaa aaaattcata aacacctcca 660
 tcatttcttt tcttgactcc acgtaacc 688

<210> 63
 <211> 269
 <212> DNA
 <213> Chlamydia trachomatis

<400> 63
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 gtgaaggcaga gttcgatcgc agtgcattcccg cgacaactcc tactgctgat ggtaagctag 180
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 ctcttaaaga aggttgctgc tttacagct 269

<210> 64
 <211> 1339
 <212> DNA
 <213> Chlamydia trachomatis

<400> 64
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 ccccgccgaa ggatcttgggt attctctccg cctggaaagc tggtagctg cgttacaaac 180
 agctagttaa tccttaggaa acatttctgg acctatgcctt atcacatgg ctccgtgatc 240
 cacatagaga gtttctcccg taattgcgtt agctagggga gagactaaga aggctgctgc 300
 tgcgcctact tgctcagctt ccattggaga aggtatgtt gcccagttt ggttagtaatc 360
 caccattctc tcaataaaatc caatagctt tcctgcacgg ctatctaattg gcccgtccga 420
 gatagttttt actcggactc cccaaacgtcg gccggcttcc caagccagta cttttgtatc 480
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 aagatctttt taacgtttat ttccaaat ttccgttgcgaa atatcttctg ggggtgcgaa 840

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cccgatatca	tcgcctatgc	cggctatgaa	agcaattttt	cctgttaaat	caattttcaa	1080
catgagctaa	ccccatttt	tcttctttag	agaggagagt	agcagattct	ttattattga	1140
gaaacgggcc	tcataataca	taaggagtag	attcactggc	tggatccagg	tttcttaggt	1200
aaagagttt	cttgtcaaat	tcttatatgg	gtagagttaa	tcaactgttt	tcaagtgatt	1260
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<210> 65
<211> 195
<212> PRT
<213> Chlamydia trachomatis

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Lys Tyr Val Val Leu Phe Phe Tyr Pro Lys Asp Phe Thr Tyr Val Cys
35 40 45

Pro Thr Glu Leu His Ala Phe Gln Asp Arg Leu Val Asp Phe Glu Glu
 50 55 60

His Gly Ala Val Val Leu Gly Cys Ser Val Asp Asp Ile Glu Thr His
65 70 75 80

Ser Arg Trp Leu Thr Val Ala Arg Asp Ala Gly Gly Ile Glu Gly Thr
85 90 95

Glu Tyr Pro Leu Leu Ala Asp Pro Ser Phe Lys Ile Ser Glu Ala Phe
 100 105 110

Gly Val Leu Asn Pro Glu Gly Ser Leu Ala Leu Arg Ala Thr Phe Leu
115 120 125

Ile Asp Lys His Gly Val Ile Arg His Ala Val Ile Asn Asp Leu Pro
130 135 140

Leu Gly Arg Ser Ile Asp Glu Glu Leu Arg Ile Leu Asp Ser Leu Ile
145 150 155 160

Phe Phe Glu Asn His Gly Met Val Cys Pro Ala Asn Trp Arg Ser Gly
165 170 175

Glu Arg Gly Met Val Pro Ser Glu Glu Gly Leu Lys Glu Tyr Phe Gln
 180 185 190

Thr Met Asp
195

<210>

210 66

<211> 520
 <212> DNA
 <213> Chlamydia

<400> 66

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 ttagttaaat tagcgcattt agagggggat gaggttactt ggaaatataa ggagcgaagc 180
 gatgaaggag atgtatgc tctggaaagca aaggttctg aagctaacag aacattgcgt 240
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 gacttaagtt tccccatcaga gggagctatt tgaatttagat aatcaagagc tagatcctt 360
 attgtggat cagaaaattt acttgtgagc gcatcgagaa ttctcgatcaga agaagaatca 420
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 gtgaaacgat cttaagagg agtatcgct ttccctctg 520

<210> 67

<211> 276
 <212> DNA
 <213> Chlamydia

<400> 67

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 caagggcact atcagaccc aagagctca gattatgacc tcccacgtgc tagcgactat 180
 gatttgccata gaagcccata tcctactcca ccttgcctt ctagatataa gctacagaat 240
 atggatgttag aagcagggtt ccgtgaggca gtttat 276

<210> 68

<211> 248
 <212> DNA
 <213> Chlamydia

<400> 68

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 tatgaaactt cttctgaaag cgattctgag gcataagaag catttagttt tattcggtt 180
 ttctctttta tccatattag ggctaacgat aacgtctcaa gcagaaattt ttctcttagg 240
 tcttattt 248

<210> 69

<211> 715
 <212> DNA
 <213> Chlamydia

<220>

<221> unsure
 <222> (34)
 <223> n=A,T,C or G

<400> 69

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 atttcatat agtttcgac ggaactctt attaaactcc caaaaccgaa tgttagtcgt 180
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 ttgtacgaca aaatttagcta atgcaggac ctctgggggg aagttatgcat ctgtatgttcc 300
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tacggtaaga gctgctcctg gagagcctaa tttaaaatcg atgattgagg tgtgaatttg 480
 aggcatgc gctgccaaa acatggatcc tcgagaaaca gggacctgat agatttcagc 540
 gaaaacatcc acgtaatac ccmaaattag taagaaggag atagggctgg aactcttcaa 600
 tggtagagcc ggtatagcgc tctagcatgt cacaggcgt tgtttctcg ctgattttt 660
 tatgttgatg ggtcataaat cacagatatt ataatggta gagaatctt tttc 715

<210> 70
 <211> 323
 <212> DNA
 <213> Chlamydia

<400> 70

gatccgaatt cggcacgagc agaacgtaaa cagcacactt aaaccgtgta tgaggtttaa 60
 cactgtttgg caagcaaaaca accattcctc tttccacatc gttcttacca atacctctga 120
 ggagcaatcc aacattctct cctgcacgac cttctggag ttctttctg aacatttcaa 180
 ccccagtaac aatcgttct ttagtatctc taagaccgac caactgaact ttatcgaaa 240
 cttaacaat tccacgctca atacgtccag ttactacagt tcctcgccg gagatagaga 300
 acacgtcctc aatggcatt aag 323

<210> 71
 <211> 715
 <212> DNA
 <213> Chlamydia

<400> 71

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 ataccggctc taccattcaa gagttccagc cctatctct tcttactaat tttgggtatt 180
 acgtggatgt ttgcgtgaa atctatcagg tccctgttc tcgaggatcc atgtttcgg 240
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 ggcatgtgcg gaggcttaag atcccactac caaataggag attatttgt ccctgttgc 420
 agcatccgaa aagatggAAC atcagatgca tactcccc cagaggccc tgcattagct 480
 aattttgtcg tacaaaaat gatcaccaat attctcgaag ccaaaaaacct cccttaccat 540
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 aaactatatg aaaataaagc tcaaactgtc gagatggagt gtgccacctt atttgctgca 660
 ggataccgaa ggaatcttcc tttaggagca ctttgctga tatcgatct acctt 715

<210> 72
 <211> 641
 <212> DNA
 <213> Chlamydia

<220>
 <221> unsure
 <222> (550)
 <223> n=A, T, C or G
 <221> unsure
 <222> (559)
 <223> n=A, T, C or G
 <221> unsure
 <222> (575)
 <223> n=A, T, C or G
 <221> unsure
 <222> (583)
 <223> n=A, T, C or G
 <221> unsure

<222> (634)
 <223> n=A, T, C or G
 <221> unsure
 <222> (638)
 <223> n=A, T, C or G

<400> 72

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 cctgattctc taccagtccg cggtcctgca agttcgata gaaatcttc acaatagcag 180
 gatgataagc gttcgtagtt ctggaaaaga aatctacaga aattcccaat ttcttgaagg 240
 tatcttatg aagcttatga tacatgtcga catattctt atacccatg cctgccaaact 300
 ctgcattaaag ggttaattgcg attccgtatt catcagaacc acaaataatac aaaacctt 360
 tgccctttagt tctctgaaaa cgcgcataaa catctgcagg caaataagca ccgttaatat 420
 gtccaaaatg caaaggacca tttgcgttaag gcaacgcaga agtaataaga atacgggaag 480
 attccactat ttacgtcgc tccagttgtc cagagaagga tcttttcttc tggatgttcc 540
 gaaaccttgn tctctcgnc tctctcctgt agcanacaaa tgnctcttc gacatctt 600
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<210> 73

<211> 584
 <212> DNA
 <213> Chlamydia

<220>

<221> unsure
 <222> (460)
 <223> n=A, T, C or G
 <221> unsure
 <222> (523)
 <223> n=A, T, C or G
 <221> unsure
 <222> (541)
 <223> n=A, T, C or G
 <221> unsure
 <222> (546)
 <223> n=A, T, C or G

<400> 73

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 gacttattac ggaacgagta aggcggagat ttcttagagtt ctgaaaaagg gtaagcactg 180
 catagccgtg attgtatgtac aaggagctt ggctctgaag aagcaatgc cggcagtcac 240
 tatttttattt caagctccct ctcaagaaga acttgagcgc cggttgaatg ctccggattc 300
 agagaaagat ttccagaaga aagaaagatt agagcatagc gctgtcgaaa ttgctgccgc 360
 tagcgaattt gattatgtt ggttaatga tgatttgatt acagcatatc aagtttaag 420
 aagtattttt atagctgaag aacataggat gagtcatggg tagaaaaagat cgtttaacta 480
 atgaaagact gaataagcta tttgatagcc ccttttagttt ggntaattac gtaattaagc 540
 nagctnagaa caaaatttgtt agaggagatg ttcgttcttc taac 584

<210> 74

<211> 465
 <212> DNA
 <213> Chlamydia

<400> 74

gatccgaatt cggcacgagc tcgtgccgtt tggatcgatc taatcgcatc ggagaatgg 60

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<210> 75
 <211> 545
 <212> DNA
 <213> Chlamydia

<400> 75
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 taagc 545

<210> 76
 <211> 797
 <212> DNA
 <213> Chlamydia

<220>
 <221> unsure
 <222> (788)
 <223> n=A, T, C or G
 <221> unsure
 <222> (789)
 <223> n=A, T, C or G

<400> 76
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 aatctctaaac caactctatc tctgtgatcg gcttaacatg acctatctaa atggagaaaa 540
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 agataacttctt cctaagcgtt ggggtatgcg taccggttat ttttctcttc atactcaaaa 780
 aaagttgnng gggataa 797

<210> 77
 <211> 399
 <212> DNA

<213> Chlamydia

<400> 77

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aaaagaaaaa cagtgcagg taagaagaaa taagaattc 399
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<210> 78

<211> 285

<212> DNA

<213> Chlamydia

<400> 78

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atgttaaga aagttggaa atacattaaa aaacacaact gtcaggatca aaaaataaaa 180
cgtaatatcc ttcccgtgc gaatcttgcc aaagtcttg gctctgtga tcctatcgac 240
atgttccaaa tgaccaaagc ctttccaaa catattgtaa aataa 285
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<210> 79

<211> 950

<212> DNA

<213> Chlamydia

<400> 79

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gttagagtaat tagttaaaga gctgcataat tatgacaaag catggaaaac gcattcgtgg 180
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taatttcact atttcctcga ccatggggcc aggggttacc gtggatacta gggagttgtat 840
tgcgttataaa ttcttaagttt aaagaggaaa aatgaaagaa gagaaaaaagt tgctgcttcg 900
cgaggttcaa gaaaagataa ccgttctca aggttttatt ttgtttagat 950
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<210> 80

<211> 395

<212> DNA

<213> Chlamydia

<400> 80

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agtaggtgtt cctacttgcg atagcatgtt tcctgttccat gatatccaca ggttggatata 180
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gaccattgac atttgagatc ccagaatcga gttcgatcatg aaatgattgtt ctctaggtac 300
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ataagccat tgtctataag agtcaaattt ccagagcgct gagatcggtc cattttgtag 360
 ttgatcagga tccagagtga gtgttcctgt atatc 395

<210> 81
 <211> 2085

<212> DNA

<213> Chlamydia

<400> 81

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 ttagtatgtt gggccgattt aatagtgcg atcgtgattt ggaaacgatc ggctgttctg 360
 tatctcttca tgatcgagga gttgattatc tacgtgtgc tcaggttcaa ggtaacagac 420
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 aaaagcgaaa gtagctactt tcatgcgggtt gtgtacagga gattctttag ctgcaggagt 2040
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<210> 82

<211> 405

<212> DNA

<213> Chlamydia

<400> 82

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 ttctccctgtt cattgggcctt gttatatggg agtccggagg gttttccgc gcttataattt 180
 cttcggtgac ttaggggat ggttaagggcc ataaatgttatttctatcatttgc 240
 atagttggca ggacatggaa gattttgtatc cttcaggacc gcctccttgg gaagaattgt 300
 attggcttca taaagggagg agaaaacttc gatataggaa atcgatcaat ggtgaaagta 360

gcaaaaaata aattagctcc tccattccga actgcagaat ttgat 405

<210> 83

<211> 379

<212> DNA

<213> Chlamydia

<400> 83

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 ttccctacgt atcacattgc taatgttagtt gatgatcatt tgatgggat tacccatgtg 180
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 ggttgggagc ctccgcagtt ttcccatatg ccgccttcttc taaatctga tggaaagtaag 300
 ctttccaaga gaaagaatcc tacttctatt ttttactatc gggatgctgg atacaaaaaaa 360
 gaagcgttca tgaatttcc 379

<210> 84

<211> 715

<212> DNA

<213> Chlamydia

<400> 84

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 cgccttccat tcttgatgca ataatatatctg ctgagactaa gaacatgctc ccagagcttt 180
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 aagcttttc cgcatccaaa ccaattgtaa tagaaggcatt ggttcatggta ttattggaga 480
 ctgttaaga tattccatca gaagctgtca ttttggctgc gacagggttt gatgttgtcc 540
 caaggattat ttgctggtcc ttgagcggct ctgtcatttgc cccaactttg atattatcag 600
 caaagacgca gttttggatgt ttatacacaat aaaaaccaga atttcccatt taaaactct 660
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<210> 85

<211> 476

<212> DNA

<213> Chlamydia

<400> 85

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 tggtttccag agatagtaca gcttgcttag gaggaggcgc tattgcagct caagaaattt 180
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 taggacaaat ggagtaccag ggaggaggag ctctatttgg taaaatatt tctcttctg 420
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<210> 86

<211> 1551

<212> DNA

<213> Chlamydia

<400> 86

gcgttatcgat atttcttctg ttacattctt tataaggatt ctgttggctg ttaatgcgtc 60

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 ggaatggaa aaagttagtt tcggctggta tgtcaaaccac gcttcttggaa ttgccttagc 360
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 ctacatatacg ttggcaggac atggaagatt ttgtatccttc aggaccgcct c 1551

<210> 87
 <211> 3031
 <212> DNA
 <213> Chlamydia

<400> 87

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<210> 88

<211> 976

<212> DNA

<213> Chlamydia

<400> 88

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 ggcacaaaatg accttctggg cgcaactactt taaagattcg tcgtcctttt ggtactacga 180
 gagaagttcg tgtgaatgg cgttatgtt cttgaaggtgt aggagattt gctaccatag 240
 ctccctctat cagggtccca cagttacaga aatcgatgag aagcttttc cctaagaaaag 300
 atgatgcgtt tcattcgctt agttcgctat tctactctcc aatggttccg cattttggg 360
 cagagcttcg caatcattat gcaacgatgt gtttggaaaag cgggtacaat attgggagta 420
 ccgatgggtt tctccctgtc attgggcctt ttatatgggat gtcggagggat ctttccgcg 480
 cttatatttc ttccgttact gatggggatg gtaagagcca taaagtagga ttctctaagaa 540
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 aagaatttgc taagattttt caagtattttt cttctaatac agaagctttt attatcgacc 660
 aaacgaacaa cccaggttgt agtgcctt atctttatgc actgctttcc atgttgcacag 720
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 ctcttttgg ttttga 976

<210> 89

<211> 94

<212> PRT

<213> Chlamydia

<400> 89

Met His His His His His Met Ser Gln Lys Asn Lys Asn Ser Ala
5 10 15

Phe Met His Pro Val Asn Ile Ser Thr Asp Leu Ala Val Ile Val Gly
20 25 30

Lys Gly Pro Met Pro Arg Thr Glu Ile Val Lys Lys Val Trp Glu Tyr
 35 40 45

Ile Lys Lys His Asn Cys Gln Asp Gln Lys Asn Lys Arg Asn Ile Leu
50 55 60

Pro Asp Ala Asn Leu Ala Lys Val Phe Gly Ser Ser Asp Pro Ile Asp
65 70 75 80

Met Phe Gln Met Thr Lys Ala Leu Ser Lys His Ile Val Lys
85 90

<210> 90
<211> 474
<212> PRT
<213> Chlamydia

<400> 90

Met Ala Ser His His His His His His Met Asn Glu Ala Phe Asp Cys
5 10 15

Val Val Ile Gly Ala Gly Pro Gly Gly Tyr Val Ala Ala Ile Thr Ala
20 25 30

Ala Gln Ala Gly Leu Lys Thr Ala Leu Ile Glu Lys Arg Glu Ala Gly
35 40 45

Gly Thr Cys Leu Asn Arg Gly Cys Ile Pro Ser Lys Ala Leu Leu Ala
50 55 60

Gly Ala Glu Val Val Thr Gln Ile Arg His Ala Asp Gln Phe Gly Ile
65 70 75 80

His Val Glu Gly Phe Ser Ile Asn Tyr Pro Ala Met Val Gln Arg Lys
85 90 95

Asp Ser Val Val Arg Ser Ile Arg Asp Gly Leu Asn Gly Leu Ile Arg
100 105 110

Ser Asn Lys Ile Thr Val Phe Ser Gly Arg Gly Ser Leu Ile Ser Ser
115 120 125

Thr Glu Val Lys Ile Leu Gly Glu Asn Pro Ser Val Ile Lys Ala His
130 135 140

Ser Ile Ile Leu Ala Thr Gly Ser Glu Pro Arg Ala Phe Pro Gly Ile
145 150 155 160

Pro Phe Ser Ala Glu Ser Pro Arg Ile Leu Cys Ser Thr Gly Val Leu
165 170 175

Asn Leu Lys Glu Ile Pro Gln Lys Met Ala Ile Ile Gly Gly Gly Val
 180 185 190
 Ile Gly Cys Glu Phe Ala Ser Leu Phe His Thr Leu Gly Ser Glu Val
 195 200 205
 Ser Val Ile Glu Ala Ser Ser Gln Ile Leu Ala Leu Asn Asn Pro Asp
 210 215 220
 Ile Ser Lys Thr Met Phe Asp Lys Phe Thr Arg Gln Gly Leu Arg Phe
 225 230 235 240
 Val Leu Glu Ala Ser Val Ser Asn Ile Glu Asp Ile Gly Asp Arg Val
 245 250 255
 Arg Leu Thr Ile Asn Gly Asn Val Glu Glu Tyr Asp Tyr Val Leu Val
 260 265 270
 Ser Ile Gly Arg Arg Leu Asn Thr Glu Asn Ile Gly Leu Asp Lys Ala
 275 280 285
 Gly Val Ile Cys Asp Glu Arg Gly Val Ile Pro Thr Asp Ala Thr Met
 290 295 300
 Arg Thr Asn Val Pro Asn Ile Tyr Ala Ile Gly Asp Ile Thr Gly Lys
 305 310 315 320
 Trp Gln Leu Ala His Val Ala Ser His Gln Gly Ile Ile Ala Ala Arg
 325 330 335
 Asn Ile Gly Gly His Lys Glu Glu Ile Asp Tyr Ser Ala Val Pro Ser
 340 345 350
 Val Ile Phe Thr Phe Pro Glu Val Ala Ser Val Gly Leu Ser Pro Thr
 355 360 365
 Ala Ala Gln Gln Gln Lys Ile Pro Val Lys Val Thr Lys Phe Pro Phe
 370 375 380
 Arg Ala Ile Gly Lys Ala Val Ala Met Gly Glu Ala Asp Gly Phe Ala
 385 390 395 400
 Ala Ile Ile Ser His Glu Thr Thr Gln Gln Ile Leu Gly Ala Tyr Val
 405 410 415
 Ile Gly Pro His Ala Ser Ser Leu Ile Ser Glu Ile Thr Leu Ala Val
 420 425 430
 Arg Asn Glu Leu Thr Leu Pro Cys Ile Tyr Glu Thr Ile His Ala His
 435 440 445
 Pro Thr Leu Ala Glu Val Trp Ala Glu Ser Ala Leu Leu Ala Val Asp
 450 455 460
 Thr Pro Leu His Met Pro Pro Ala Lys Lys
 465 470

<210> 91
 <211> 129
 <212> PRT
 <213> Chlamydia

<400> 91
 Met His His His His His Met Pro Arg Ile Ile Gly Ile Asp Ile
 5 10 15
 Pro Ala Lys Lys Lys Leu Lys Ile Ser Leu Thr Tyr Ile Tyr Gly Ile
 20 25 30
 Gly Ser Ala Arg Ser Asp Glu Ile Ile Lys Lys Leu Lys Leu Asp Pro
 35 40 45
 Glu Ala Arg Ala Ser Glu Leu Thr Glu Glu Glu Val Gly Arg Leu Asn
 50 55 60
 Ser Leu Leu Gln Ser Glu Tyr Thr Val Glu Gly Asp Leu Arg Arg Arg
 65 70 75 80
 Val Gln Ser Asp Ile Lys Arg Leu Ile Ala Ile His Ser Tyr Arg Gly
 85 90 95
 Gln Arg His Arg Leu Ser Leu Pro Val Arg Gly Gln Arg Thr Lys Thr
 100 105 110
 Asn Ser Arg Thr Arg Lys Gly Lys Arg Lys Thr Val Ala Gly Lys Lys
 115 120 125
 Lys

<210> 92
 <211> 202
 <212> PRT
 <213> Chlamydia

<400> 92
 Met His His His His His Met Gly Ser Leu Val Gly Arg Gln Ala
 5 10 15
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 20 25 30
 Ser Leu Ala Asp Phe Arg Gly Lys Tyr Val Val Leu Phe Phe Tyr Pro
 35 40 45
 Lys Asp Phe Thr Tyr Val Cys Pro Thr Glu Leu His Ala Phe Gln Asp
 50 55 60
 Arg Leu Val Asp Phe Glu Glu His Gly Ala Val Val Leu Gly Cys Ser
 65 70 75 80

Val Asp Asp Ile Glu Thr His Ser Arg Trp Leu Thr Val Ala Arg Asp
 85 90 95
 Ala Gly Gly Ile Glu Gly Thr Glu Tyr Pro Leu Leu Ala Asp Pro Ser
 100 105 110
 Phe Lys Ile Ser Glu Ala Phe Gly Val Leu Asn Pro Glu Gly Ser Leu
 115 120 125
 Ala Leu Arg Ala Thr Phe Leu Ile Asp Lys His Gly Val Ile Arg His
 130 135 140
 Ala Val Ile Asn Asp Leu Pro Leu Gly Arg Ser Ile Asp Glu Glu Leu
 145 150 155 160
 Arg Ile Leu Asp Ser Leu Ile Phe Phe Glu Asn His Gly Met Val Cys
 165 170 175
 Pro Ala Asn Trp Arg Ser Gly Glu Arg Gly Met Val Pro Ser Glu Glu
 180 185 190
 Gly Leu Lys Glu Tyr Phe Gln Thr Met Asp
 195 200

<210> 93

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> made in a lab

<400> 93

Glu Asn Ser Leu Gln Asp Pro Thr Asn Lys Arg Asn Ile Asn Pro Asp
 1 5 10 15

Asp Lys Leu

<210> 94

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 94

Asp Pro Thr Asn Lys Arg Asn Ile Asn Pro Asp Asp Lys Leu Ala Lys
 1 5 10 15

Val Phe Gly Thr
 20

<210> 95

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 95

Lys	Arg	Asn	Ile	Asn	Pro	Asp	Asp	Lys	Leu	Ala	Lys	Val	Phe	Gly	Thr
1					5				10						15
Glu	Lys	Pro	Ile												
			20												

<210> 96

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 96

Asp	Asp	Lys	Leu	Ala	Lys	Val	Phe	Gly	Thr	Glu	Lys	Pro	Ile	Asp	Met
1					5				10						15
Phe	Gln	Met	Thr												
			20												

<210> 97

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 97

Lys	Val	Phe	Gly	Thr	Glu	Lys	Pro	Ile	Asp	Met	Phe	Gln	Met	Thr	Lys
1					5				10						15
Met	Val	Ser	Gln												
			20												

<210> 98

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 98

Asn	Lys	Arg	Asn	Ile	Asn	Pro	Asp	Asp	Lys	Leu	Ala	Lys	Val	Phe	Gly
1					5					10					15
Thr	Glu	Lys	Pro												
			20												

<210> 99

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 99

Asn	Lys	Arg	Asn	Ile	Leu	Pro	Asp	Ala	Asn	Leu	Ala	Lys	Val	Phe	Gly
1				5				10				15			

<210> 100

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 100

Lys	Met	Trp	Asp	Tyr	Ile	Lys	Glu	Asn	Ser	Leu	Gln	Asp	Pro	Thr
1				5				10				15		

<210> 101

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 101

Thr	Glu	Ile	Val	Lys	Lys	Val	Trp	Glu	Tyr	Ile	Lys	Lys	His	Asn	Cys
1				5				10				15			
Gln	Asp	Gln	Lys												
			20												

<210> 102

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 102

Lys	Val	Trp	Glu	Tyr	Ile	Lys	Lys	His	Asn	Cys	Gln	Asp	Gln	Lys	Asn
1				5				10				15			
Lys	Arg	Asn	Ile												
			20												

<210> 103

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 103

Lys Val Trp Glu Tyr Ile Lys Lys His Asn Cys Gln Asp Gln Lys
1 5 10 15

<210> 104

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 104

Ala Glu Leu Thr Glu Glu Glu Val Gly Arg Leu Asn Ala Leu Leu Gln
1 5 10 15
Ser Asp Tyr Val
20

<210> 105

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 105

Leu Gln Ser Asp Tyr Val Val Glu Gly Asp Leu Arg Arg Arg Val Gln
1 5 10 15
Ser Asp Ile Lys Arg
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<210> 106

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 106

Met Pro Arg Ile Ile Gly Ile Asp Ile Pro Ala Lys Lys Lys Leu Lys
1 5 10 15
Ile Ser Leu Thr
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<210> 107

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 107

Ala Glu Leu Thr Glu Glu Glu Val Gly Arg Leu Asn Ala Leu Leu Gln
1 5 10 15
Ser Asp Tyr Val

20

<210> 108
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 108
Leu Asn Ala Leu Leu Gln Ser Asp Tyr Val Val Glu Gly Asp Leu Arg
1 5 10 15
Arg Arg Val Gln
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<210> 109
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 109
Leu Asn Ser Leu Leu Gln Ser Glu Tyr Thr Val Glu Gly Asp Leu Arg
1 5 10 15
Arg Arg Val Gln
20

<210> 110
<211> 1461
<212> DNA
<213> Chlamydia

<400> 110
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tgcctagaag cccatatcct actccaccc ttgccttctag atatcagacta cagaatatgg 180
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<210> 111
<211> 267
<212> DNA
<213> Chlamydia

<400> 111
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 gaaaagctat gttggaaagac atcgctatct taactggcgg tcaactcatt aogcaagagt 180
 tgggcatgaa attagaaaac gctaacttag ctatgttagg taaagctaaa aaagttatcg 240
 tttctaaaga agacacgacc atcgctcg 267

<210> 112
<211> 698
<212> DNA
<213> Chlamydia

<400> 112
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 agatctgagc caactgaaaa aatacacagt tctctacatc aagaagctgc tcgaaaccta 180
 cagacaactc gggcatcgaa agacaaaaat tgcaaaaattt gatgacctac ctaccgagag 240
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 aagctgtaaa cgtatacgtt taccgcttt ccataatttc taggctgact ttcacattat 480
 ctcgacttgc tacggaaacc aataaagtac ggatagcctt aatagtgcgt ccttctttac 540
 cgataatttt accgatatct cccttagcaa cagtcattc gtagataatc gtattggttc 600
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 ctaaaaaactc tttcatgcga agcaaatcct acacaagc 698

<210> 113
<211> 1142
<212> DNA
<213> Chlamydia

<400> 113
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 aacgaaaaaaaaa gaaggatttt tgattccttc tgcaaggatt gatgaatcga atacggacca 180
 gcctttgtt ttatatccta aagatatttt gggatcgtgt aatcgcatcg gagaatggtt 240
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 aatgcggcggt ggagtactgg gtatcgggct gtgttggat ggattttctc cattacacaa 360
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<210> 114
<211> 976
<212> DNA
<213> Chlamydia

<400> 114
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<210> 115
<211> 995
<212> DNA
<213> Chlamydia

<400> 115
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 cccctacaaa gttgctccta actcgaaagg agatcggtc tttgatgtgg aacaaaaact 360
 gtacactccaa gaagaaatcg ggcgtcagat cctcatgaag atgaaggaaa ctgctgaggc 420
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<210> 116
<211> 437
<212> DNA

<213> Chlamydia

<400> 116

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ggaaccctta	cttgtaaaaaa	ctctcaccgt	ctacaatttt	tgaaaaaactc	ttccgataaaa	180
caaggtggag	gaatctacgg	agaagacaac	atcaccctat	ctaatttgac	agggaaagact	240
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catgggtggtg	gagccttgc	taccaaagaa	atctctcaga	cttacacccctc	tgatgtggaa	420
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<210> 117

<211> 446

<212> DNA

<213> Chlamydia

<400> 117

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agggacaat	tacccgaaaa	gttaagggtg	gtttgatcgt	agatatttgt	atggaagcct	180
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<210> 118

211 <211> 951

<212> DNA

<213> Chlamydia

<400> 118

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aagagatggt tgatgggtt ttatgtgttag agtcttctga aatagcagat gctaaactca 900
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<210> 119

211 <211> 953

<212> DNA

<213> Chlamydia

<400> 119

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ataatccatc accaatgct tctattaca ttggggaa tgcgaaaaa gcttaccagc 180
ttattctaga aaagttggga gatcaaattc ttgggtggat tgctgatact atttgtgata 240
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<210> 120
<211> 897
<212> DNA
<213> Chlamydia

<400> 120
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<210> 121
<211> 298
<212> PRT
<213> Chlamydia

<400> 121
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20 25 30
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35 40 45
Glu Leu Thr Ala Asn Ile Leu Glu Gln Ala Gly Gly Ala Gly Ser Ser
50 55 60
Ala His Ile Thr Ala Ser Gln Val Ser Lys Gly Leu Gly Asp Ala Arg
65 70 75 80
Thr Val Leu Ala Leu Gly Asn Ala Phe Asn Gly Ala Leu Pro Gly Thr
85 90 95

Val Gln Ser Ala Gln Ser Phe Phe Ser Tyr Met Lys Ala Ala Ser Gln
 100 105 110
 Lys Pro Gln Glu Gly Asp Glu Gly Leu Val Ala Asp Leu Cys Val Ser
 115 120 125
 His Lys Arg Arg Ala Ala Ala Val Cys Ser Phe Ile Gly Gly Ile
 130 135 140
 Thr Tyr Leu Ala Thr Phe Gly Ala Ile Arg Pro Ile Leu Phe Val Asn
 145 150 155 160
 Lys Met Leu Ala Gln Pro Phe Leu Ser Ser Gln Ile Lys Ala Asn Met
 165 170 175
 Gly Ser Ser Val Ser Tyr Ile Met Ala Ala Asn His Ala Ala Phe Val
 180 185 190
 Val Gly Ser Gly Leu Ala Ile Ser Ala Glu Arg Ala Asp Cys Glu Ala
 195 200 205
 Arg Cys Ala Arg Ile Ala Arg Glu Glu Ser Ser Leu Glu Leu Ser Gly
 210 215 220
 Glu Glu Asn Ala Cys Glu Arg Arg Val Ala Gly Glu Lys Ala Lys Thr
 225 230 235 240
 Phe Thr Arg Ile Lys Tyr Ala Leu Leu Thr Met Leu Glu Lys Phe Leu
 245 250 255
 Glu Cys Val Ala Asp Val Phe Lys Leu Val Pro Leu Pro Ile Thr Met
 260 265 270
 Gly Ile Arg Ala Ile Val Ala Ala Gly Cys Thr Phe Thr Ser Ala Val
 275 280 285
 Ile Gly Leu Trp Thr Phe Cys Ala Arg Ala
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<210> 122

<211> 897

<212> DNA

<213> Chlamydia

<400> 122

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ttcacgcgca tcaagtatgc actcctact atgctcgaga agtttttggg atgcgttgcc	780
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<210> 123

<211> 298

<212> PRT

<213> Chlamydia

<400> 123

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 Lys Thr Lys Gly Met Asp Lys Thr Val Lys Val Ala Lys Ser Ala Ala
 35 40 45
 Glu Leu Thr Ala Asn Ile Leu Glu Gln Ala Gly Gly Ala Gly Ser Ser
 50 55 60
 Ala His Ile Thr Ala Ser Gln Val Ser Lys Gly Leu Gly Asp Thr Arg
 65 70 75 80
 Thr Val Val Ala Leu Gly Asn Ala Phe Asn Gly Ala Leu Pro Gly Thr
 85 90 95
 Val Gln Ser Ala Gln Ser Phe Phe Ser His Met Lys Ala Ala Ser Gln
 100 105 110
 Lys Thr Gln Glu Gly Asp Glu Gly Leu Thr Ala Asp Leu Cys Val Ser
 115 120 125
 His Lys Arg Arg Ala Ala Ala Val Cys Gly Phe Ile Gly Gly Ile
 130 135 140
 Thr Tyr Leu Ala Thr Phe Gly Val Ile Arg Pro Ile Leu Phe Val Asn
 145 150 155 160
 Lys Met Leu Val Asn Pro Phe Leu Ser Ser Gln Thr Lys Ala Asn Met
 165 170 175
 Gly Ser Ser Val Ser Tyr Ile Met Ala Ala Asn His Ala Ala Ser Val
 180 185 190
 Val Gly Ala Gly Leu Ala Ile Ser Ala Glu Arg Ala Asp Cys Glu Ala
 195 200 205
 Arg Cys Ala Arg Ile Ala Arg Glu Glu Ser Leu Leu Glu Val Ser Gly
 210 215 220
 Glu Glu Asn Ala Cys Glu Lys Arg Val Ala Gly Glu Lys Ala Lys Thr
 225 230 235 240
 Phe Thr Arg Ile Lys Tyr Ala Leu Leu Thr Met Leu Glu Lys Phe Leu
 245 250 255
 Glu Cys Val Ala Asp Val Phe Lys Leu Val Pro Leu Pro Ile Thr Met
 260 265 270
 Gly Ile Arg Ala Ile Val Ala Ala Gly Cys Thr Phe Thr Ser Ala Ile
 275 280 285
 Ile Gly Leu Cys Thr Phe Cys Ala Arg Ala
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<210> 124

<211> 897

<212> DNA

<213> Chlamydia

<400> 124

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attaagggttgc	ccaagtctgc	tgccgaatttgc	accgcaaata	ttttggaaaca	agctggaggc	180
gcgggcttttgc	ccgcacacat	tacagcttcc	caagtgtcca	aaggattagg	ggatgcgaga	240
actgttgtcg	ctttagggaa	tgccttaac	ggagcgttgc	caggaacagt	tcaaagtgcg	300
caaagcttcttgc	tcttcacat	gaaagctgtct	agtcatggaaa	cgcaagaagg	ggatgagggg	360
ctcacagcag	atctttgtgt	gtctcataaag	cgcagagcgg	ctgcggctgt	ctgttagcatc	420
atcgaggaa	ttacacct	cgcgacattc	ggagctatcc	gtccgattct	gtttgtcaac	480
aaaatgttgc	aaaaaccgtt	tctttcttcc	caaactaaag	caaatatggg	atcttctgtt	540
agctatatta	tggccgctaa	ccatgcagcg	tctgtggtgg	gtgctggact	cgctatcagt	600
gcggaaagag	cagattgcga	agcccgcgtc	gctcgttatttgc	cgagagaaga	gtcggtactc	660
gaagtgccgg	gagaggaaaa	tgcttgcgag	aagaaagtgcg	ctggagagaa	agccaagacg	720
ttcacgcgca	tcaagtatgc	actcctcact	atgctcgaga	agtttttggaa	atgcgttgcc	780
gacgttttca	aattggtgcc	gctgcctatt	acaatgggtta	ttcgtgcgt	tgtggctgct	840

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<210> 125

<211> 298

<212> PRT

<213> Chlamydia

<400> 125

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				20				25					30		
Lys	Thr	Lys	Gly	Met	Asp	Lys	Thr	Ile	Lys	Val	Ala	Lys	Ser	Ala	Ala
		35				40						45			
Glu	Leu	Thr	Ala	Asn	Ile	Leu	Glu	Gln	Ala	Gly	Gly	Ala	Gly	Ser	Ser
					50		55			60					
Ala	His	Ile	Thr	Ala	Ser	Gln	Val	Ser	Lys	Gly	Leu	Gly	Asp	Ala	Arg
		65				70			75				80		
Thr	Val	Val	Ala	Leu	Gly	Asn	Ala	Phe	Asn	Gly	Ala	Leu	Pro	Gly	Thr
					85				90				95		
Val	Gln	Ser	Ala	Gln	Ser	Phe	Phe	Ser	His	Met	Lys	Ala	Ala	Ser	Gln
					100			105					110		
Lys	Thr	Gln	Glu	Gly	Asp	Glu	Gly	Leu	Thr	Ala	Asp	Leu	Cys	Val	Ser
		115				120						125			
His	Lys	Arg	Arg	Ala	Ala	Ala	Ala	Val	Cys	Ser	Ile	Ile	Gly	Gly	Ile
		130				135					140				
Thr	Tyr	Leu	Ala	Thr	Phe	Gly	Ala	Ile	Arg	Pro	Ile	Leu	Phe	Val	Asn
		145				150				155				160	
Lys	Met	Leu	Ala	Lys	Pro	Phe	Leu	Ser	Ser	Gln	Thr	Lys	Ala	Asn	Met
					165				170				175		
Gly	Ser	Ser	Val	Ser	Tyr	Ile	Met	Ala	Ala	Asn	His	Ala	Ala	Ser	Val
					180			185				190			
Val	Gly	Ala	Gly	Leu	Ala	Ile	Ser	Ala	Glu	Arg	Ala	Asp	Cys	Glu	Ala
		195				200				205					
Arg	Cys	Ala	Arg	Ile	Ala	Arg	Glu	Glu	Ser	Leu	Leu	Glu	Val	Pro	Gly
		210				215				220					
Glu	Glu	Asn	Ala	Cys	Glu	Lys	Lys	Val	Ala	Gly	Glu	Lys	Ala	Lys	Thr
		225				230			235				240		
Phe	Thr	Arg	Ile	Lys	Tyr	Ala	Leu	Leu	Thr	Met	Leu	Glu	Lys	Phe	Leu
					245			250				255			
Glu	Cys	Val	Ala	Asp	Val	Phe	Lys	Leu	Val	Pro	Leu	Pro	Ile	Thr	Met
					260			265			270				
Gly	Ile	Arg	Ala	Ile	Val	Ala	Ala	Gly	Cys	Thr	Phe	Thr	Ser	Ala	Ile
		275				280				285					
Ile	Gly	Leu	Cys	Thr	Phe	Cys	Ala	Arg	Ala						
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<210> 126

<211> 897

<212> DNA

<213> Chlamydia

<400> 126

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attaagggtt	ccaagtctgc	tgccgaattt	accgcaaata	ttttggaaaca	agctggaggc	180
gcgggcttt	ccgcacacat	tacagcttcc	caagtgtcca	aaggattagg	ggatgcgaga	240

actgttgcg	ctttagggaa	tgccttaac	ggagcggtgc	caggaacagt	tcaaagtgcg	300
caaagctct	tcttcacat	gaaagctgct	agtcagaaaaa	cgcaagaagg	ggatgagggg	360
ctcacagcag	atcttgtgt	gtctcataag	cgcagagcgg	ctgcggctgt	ctgtagcatc	420
atcggagggaa	ttacctaccc	cgcacattc	ggagctatcc	gtccgattct	gttgtcaac	480
aaaatgctgg	caaaaccgtt	tcttcttcc	caaactaaag	caaatatggg	atcttctgtt	540
agctatatta	tggcggctaa	ccatgcagcg	tctgtggtgg	gtgctggact	cgctatcagt	600
gcggaaaagag	cagattgcga	agcccgcgc	gctcgatattg	cgagagaaga	gtcggtactc	660
gaagtgcggg	gagagggaaaa	tgcttgcgag	aagaaagtgcg	ctggagagaa	agccaagacg	720
ttcacgcgca	tcaagtatgc	actcctcact	atgctcgaga	agtttttgg	atgcgttgcc	780
gacgtttca	aatttgcgc	gctgcctatt	acaatgggta	ttcgtgcgat	tgtggctgct	840
ggatgtacgt	tcacttctgc	aattatttgg	ttgtgcactt	tctgcgccag	agcataaa	897

<210> 127

<211> 298

<212> PRT

<213> Chlamydia

<400> 127

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Lys Thr Lys Gly Met Asp Lys Thr Ile Lys Val Ala Lys Ser Ala Ala			
35	40	45	
Glu Leu Thr Ala Asn Ile Leu Glu Gln Ala Gly Gly Ala Gly Ser Ser			
50	55	60	
Ala His Ile Thr Ala Ser Gln Val Ser Lys Gly Leu Gly Asp Ala Arg			
65	70	75	80
Thr Val Val Ala Leu Gly Asn Ala Phe Asn Gly Ala Leu Pro Gly Thr			
85	90	95	
Val Gln Ser Ala Gln Ser Phe Phe Ser His Met Lys Ala Ala Ser Gln			
100	105	110	
Lys Thr Gln Glu Gly Asp Glu Gly Leu Thr Ala Asp Leu Cys Val Ser			
115	120	125	
His Lys Arg Arg Ala Ala Ala Val Cys Ser Ile Ile Gly Gly Ile			
130	135	140	
Thr Tyr Leu Ala Thr Phe Gly Ala Ile Arg Pro Ile Leu Phe Val Asn			
145	150	155	160
Lys Met Leu Ala Lys Pro Phe Leu Ser Ser Gln Thr Lys Ala Asn Met			
165	170	175	
Gly Ser Ser Val Ser Tyr Ile Met Ala Ala Asn His Ala Ala Ser Val			
180	185	190	
Val Gly Ala Gly Leu Ala Ile Ser Ala Glu Arg Ala Asp Cys Glu Ala			
195	200	205	
Arg Cys Ala Arg Ile Ala Arg Glu Glu Ser Leu Leu Glu Val Pro Gly			
210	215	220	
Glu Glu Asn Ala Cys Glu Lys Lys Val Ala Gly Glu Lys Ala Lys Thr			
225	230	235	240
Phe Thr Arg Ile Lys Tyr Ala Leu Leu Thr Met Leu Glu Lys Phe Leu			
245	250	255	
Glu Cys Val Ala Asp Val Phe Lys Leu Val Pro Leu Pro Ile Thr Met			
260	265	270	
Gly Ile Arg Ala Ile Val Ala Ala Gly Cys Thr Phe Thr Ser Ala Ile			
275	280	285	
Ile Gly Leu Cys Thr Phe Cys Ala Arg Ala			
290	295		

<210> 128
<211> 897
<212> DNA
<213> Chlamydia

<400> 128

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gcgggcttt	ccgcacacat	tacagcttc	caagtgtcca	aaggattagg	ggatacggaa	240
actgttgtcg	ctttagggaa	tgcccttaac	ggagcgttgc	caggaacagt	tcaaagtgcg	300
caaagcttct	tcttcacat	gaaagctgtct	agtcagaaaa	cgcaagaagg	gatgagggg	360
ctcacagcag	atctttgtgt	gtctcataag	cgcagagcgg	ctgcggctgt	ctgtggcttc	420
atcgaggaa	ttacctaccc	cgcgacattc	ggagttatcc	gtccgattct	gtttgtcaac	480
aaaatgctgg	tgaacccgtt	tcttcttcc	caaactaaag	caaataatggg	atcttctgtt	540
agctatatta	tggccgctaa	ccatgcagcg	tctgtggtgg	gtgctgact	cgctatcagt	600
gcggaaagag	cagattgcga	agcccgcgtc	gctcgtattt	cgagagaaga	gtcggtactc	660
gaagtgtcgg	gagagggaaaa	tgcttgcag	aagagagtcg	ctggagagaa	agccaagacg	720
ttcacgcgca	tcaagtatgc	actcctact	atgctcgaga	agtttttgg	atgcgttgcc	780
gacgtttca	aatttggtgc	gctgcctatt	acaatggta	ttcgtgcgat	tgtggctgct	840
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<210> 129
<211> 298
<212> PRT
<213> Chlamydia

<400> 129

Met	Ala	Ser	Ile	Cys	Gly	Arg	Leu	Gly	Ser	Gly	Thr	Gly	Asn	Ala	Leu
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Lys	Ala	Phe	Phe	Thr	Gln	Pro	Ser	Asn	Lys	Met	Ala	Arg	Val	Val	Asn
					20				25				30		
Lys	Thr	Lys	Gly	Met	Asp	Lys	Thr	Val	Lys	Val	Ala	Lys	Ser	Ala	Ala
						35			40				45		
Glu	Leu	Thr	Ala	Asn	Ile	Leu	Glu	Gln	Ala	Gly	Gly	Ala	Gly	Ser	Ser
						50			55			60			
Ala	His	Ile	Thr	Ala	Ser	Gln	Val	Ser	Lys	Gly	Leu	Gly	Asp	Thr	Arg
						65			70			75			80
Thr	Val	Val	Ala	Leu	Gly	Asn	Ala	Phe	Asn	Gly	Ala	Leu	Pro	Gly	Thr
								85			90			95	
Val	Gln	Ser	Ala	Gln	Ser	Phe	Phe	Ser	His	Met	Lys	Ala	Ala	Ser	Gln
						100			105			110			
Lys	Thr	Gln	Glu	Gly	Asp	Glu	Gly	Leu	Thr	Ala	Asp	Leu	Cys	Val	Ser
						115			120			125			
His	Lys	Arg	Arg	Ala	Ala	Ala	Ala	Val	Cys	Gly	Phe	Ile	Gly	Gly	Ile
						130			135			140			
Thr	Tyr	Leu	Ala	Thr	Phe	Gly	Val	Ile	Arg	Pro	Ile	Leu	Phe	Val	Asn
						145			150			155			160
Lys	Met	Leu	Val	Asn	Pro	Phe	Leu	Ser	Ser	Gln	Thr	Lys	Ala	Asn	Met
						165			170			175			
Gly	Ser	Ser	Val	Ser	Tyr	Ile	Met	Ala	Ala	Asn	His	Ala	Ala	Ser	Val
						180			185			190			
Val	Gly	Ala	Gly	Leu	Ala	Ile	Ser	Ala	Glu	Arg	Ala	Asp	Cys	Glu	Ala
						195			200			205			
Arg	Cys	Ala	Arg	Ile	Ala	Arg	Glu	Glu	Ser	Leu	Leu	Glu	Val	Ser	Gly
						210			215			220			
Glu	Glu	Asn	Ala	Cys	Glu	Lys	Arg	Val	Ala	Gly	Glu	Lys	Ala	Lys	Thr

225	230	235	240												
Phe	Thr	Arg	Ile	Lys	Tyr	Ala	Leu	Leu	Thr	Met	Leu	Glu	Lys	Phe	Leu
245	250	255													
Glu	Cys	Val	Ala	Asp	Val	Phe	Lys	Leu	Val	Pro	Leu	Pro	Ile	Thr	Met
260	265	270													
Gly	Ile	Arg	Ala	Ile	Val	Ala	Ala	Gly	Cys	Thr	Phe	Thr	Ser	Ala	Ile
275	280	285													
Ile	Gly	Leu	Cys	Thr	Phe	Cys	Ala	Arg	Ala						
290	295														

<210> 130

<211> 897

<212> DNA

<213> Chlamydia

<400> 130

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ctcgttagcag	atctttgtgt	gtctcataag	cgcagagcgg	ctgcccgtgt	ctgttagcttc	420
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agctatatta	tggcggctaa	ccatgcagcg	tttgtggtgg	gttctggact	cgctatcagt	600
gcggaaagag	cagattgcga	agcccgctgc	gctcgtattt	cgagagaaga	gtcgtcactc	660
gaattgtcgg	gagagaaaaa	tgcttgcag	aggggagtcg	ctggagagaa	agccaagacg	720
ttcacgcgca	tcaagtatgc	actcctact	atgctcgaga	agtttttgg	atgcgttgcc	780
gacgttttca	aatttgggcc	gttgccattt	acaatgggt	ttcgtcaat	tgtggctgcg	840
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<210> 131

<211> 298

<212> PRT

<213> Chlamydia

<400> 131

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									20				25		30
Lys	Thr	Lys	Gly	Met	Asp	Lys	Thr	Val	Lys	Val	Ala	Lys	Ser	Ala	Ala
									35				40		45
Glu	Leu	Thr	Ala	Asn	Ile	Leu	Glu	Gln	Ala	Gly	Gly	Ala	Gly	Ser	Ser
									50				55		60
Ala	His	Ile	Thr	Ala	Ser	Gln	Val	Ser	Lys	Gly	Leu	Gly	Asp	Ala	Arg
									65				70		80
Thr	Val	Leu	Ala	Leu	Gly	Asn	Ala	Phe	Asn	Gly	Ala	Leu	Pro	Gly	Thr
									85				90		95
Val	Gln	Ser	Ala	Gln	Ser	Phe	Phe	Ser	Tyr	Met	Lys	Ala	Ala	Ser	Gln
									100				105		110
Lys	Pro	Gln	Glu	Gly	Asp	Glu	Gly	Leu	Val	Ala	Asp	Leu	Cys	Val	Ser
									115				120		125
His	Lys	Arg	Arg	Ala	Ala	Ala	Val	Cys	Ser	Phe	Ile	Gly	Gly	Ile	
									130				135		140
Thr	Tyr	Leu	Ala	Thr	Phe	Gly	Ala	Ile	Arg	Pro	Ile	Leu	Phe	Val	Asn

145	150	155	160												
Lys	Met	Leu	Ala	Gln	Pro	Phe	Leu	Ser	Ser	Gln	Thr	Lys	Ala	Asn	Met
165		170										175			
Gly	Ser	Ser	Val	Ser	Tyr	Ile	Met	Ala	Ala	Asn	His	Ala	Ala	Phe	Val
180		185										190			
Val	Gly	Ser	Gly	Leu	Ala	Ile	Ser	Ala	Glu	Arg	Ala	Asp	Cys	Glu	Ala
195		200									205				
Arg	Cys	Ala	Arg	Ile	Ala	Arg	Glu	Glu	Ser	Ser	Leu	Glu	Leu	Ser	Gly
210		215									220				
Glu	Glu	Asn	Ala	Cys	Glu	Arg	Gly	Val	Ala	Gly	Glu	Lys	Ala	Lys	Thr
225		230								235				240	
Phe	Thr	Arg	Ile	Lys	Tyr	Ala	Leu	Leu	Thr	Met	Leu	Glu	Lys	Phe	Leu
245		250											255		
Glu	Cys	Val	Ala	Asp	Val	Phe	Lys	Leu	Val	Pro	Leu	Pro	Ile	Thr	Met
260		265										270			
Gly	Ile	Arg	Ala	Ile	Val	Ala	Ala	Gly	Cys	Thr	Phe	Thr	Ser	Ala	Val
275		280									285				
Ile	Gly	Leu	Trp	Thr	Phe	Cys	Asn	Arg	Val						
290		295													

<210> 132

<211> 897

<212> DNA

<213> Chlamydia

<400> 132

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gttaaggtcg	ccaagtctgc	tgccgaattg	accgcaaata	ttttgaaaca	agctggaggc	180
gcgggctctt	ccgcacacat	tacagcttcc	caagtgtcca	aaggattagg	ggatgcgaga	240
actgttctcg	ctttagggaa	tgccttaac	ggagcggtgc	caggaacagt	tcaaagtgcg	300
caaagcttct	tctcttacat	gaaagctgtct	agtccagaaac	cgcaagaagg	ggatgagggg	360
ctcgttagcag	atctttgtgt	gtctcataag	cgcagagcgg	ctgcggctgt	ctgttagcttc	420
atcggaggaa	ttaccttacct	cgcgacattc	ggagctatcc	gtccgattct	gtttgtcaac	480
aaaatgttgg	cgcaaccgtt	tctttcttcc	caaactaaag	caaatatggg	atcttctgtt	540
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gacgttttca	aatttggtgc	gttgcctatt	acaatgggta	ttcgtgcaat	tgtggctgcg	840
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<210> 133

<211> 298

<212> PRT

<213> Chlamydia

<400> 133

Met	Ala	Ala	Ile	Cys	Gly	Arg	Leu	Gly	Ser	Gly	Thr	Gly	Asn	Ala	Leu
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Lys	Ala	Phe	Phe	Thr	Gln	Pro	Ser	Asn	Lys	Met	Ala	Arg	Val	Val	Asn
				20				25				30			
Lys	Thr	Lys	Gly	Met	Asp	Lys	Thr	Val	Lys	Val	Ala	Lys	Ser	Ala	Ala
				35				40				45			
Glu	Leu	Thr	Ala	Asn	Ile	Leu	Glu	Gln	Ala	Gly	Gly	Ala	Gly	Ser	Ser
				50				55				60			
Ala	His	Ile	Thr	Ala	Ser	Gln	Val	Ser	Lys	Gly	Leu	Gly	Asp	Ala	Arg

65	70	75	80
Thr Val Leu Ala Leu Gly Asn Ala Phe Asn Gly Ala Leu Pro Gly Thr			
85	90	95	
Val Gln Ser Ala Gln Ser Phe Phe Ser Tyr Met Lys Ala Ala Ser Gln			
100	105	110	
Lys Pro Gln Glu Gly Asp Glu Gly Leu Val Ala Asp Leu Cys Val Ser			
115	120	125	
His Lys Arg Arg Ala Ala Ala Val Cys Ser Phe Ile Gly Gly Ile			
130	135	140	
Thr Tyr Leu Ala Thr Phe Gly Ala Ile Arg Pro Ile Leu Phe Val Asn			
145	150	155	160
Lys Met Leu Ala Gln Pro Phe Leu Ser Ser Gln Thr Lys Ala Asn Met			
165	170	175	
Gly Ser Ser Val Ser Tyr Ile Met Ala Ala Asn His Ala Ala Phe Val			
180	185	190	
Val Gly Ser Gly Leu Ala Ile Ser Ala Glu Arg Ala Asp Cys Glu Ala			
195	200	205	
Arg Cys Ala Arg Ile Ala Arg Glu Glu Ser Ser Leu Glu Leu Ser Gly			
210	215	220	
Glu Glu Asn Ala Cys Glu Arg Arg Val Ala Gly Glu Lys Ala Lys Thr			
225	230	235	240
Phe Thr Arg Ile Lys Tyr Ala Leu Leu Thr Met Leu Glu Lys Phe Leu			
245	250	255	
Glu Cys Val Ala Asp Val Phe Lys Leu Val Pro Leu Pro Ile Thr Met			
260	265	270	
Gly Ile Arg Ala Ile Val Ala Ala Gly Cys Thr Phe Thr Ser Ala Val			
275	280	285	
Ile Gly Leu Trp Thr Phe Cys Asn Arg Val			
290	295		

<210> 134

<211> 897

<212> DNA

<213> Chlamydia

<400> 134

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gcgggctttt ccgcacacat tacagcttcc caagtgtcca aaggattagg ggatgcgaga	240
actgttgcg cttagggaa tgccttaac ggagcggtgc caggaacagt tcaaagtgcg	300
caaagcttct tcttcacat gaaagctgct agtcagaaaaa cgcaagaagg ggatgagggg	360
ctcacagcag atctttgtgt gtctcataag cgtagcgcc ctgcggctgt ctgttagcatc	420
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gcggaaagag cagattgcga agcccgctgc gctcgttattt cgagagaaga gtcgttactc	660
gaaatgccgg gagaggaaaa tgcttgcgag aagaaagtgc ctggagagaa agccaagacg	720
ttcacgcgca tcaagtatgc actcctact atgctcgaga agtttttggg atgcgttgcc	780
gacgttttca aatttgggcc gctgcctatt acaatgggta ttctgtgcgt tctgcgccag agcataa	840
gatgtacgt tcacttctgc aattatttggg ttgtgcactt tctgcgccag agcataa	897

<210> 135

<211> 298

<212> PRT

<213> Chlamydia

<400> 135

Met	Ala	Ser	Ile	Cys	Gly	Arg	Leu	Gly	Ser	Gly	Thr	Gly	Asn	Ala	Leu
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Lys	Ala	Phe	Phe	Thr	Gln	Pro	Asn	Asn	Lys	Met	Ala	Arg	Val	Val	Asn
		20					25						30		
Lys	Thr	Lys	Gly	Met	Asp	Lys	Thr	Ile	Lys	Val	Ala	Lys	Ser	Ala	Ala
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Glu	Leu	Thr	Ala	Asn	Ile	Leu	Glu	Gln	Ala	Gly	Gly	Ala	Gly	Ser	Ser
		50					55				60				
Ala	His	Ile	Thr	Ala	Ser	Gln	Val	Ser	Lys	Gly	Leu	Gly	Asp	Ala	Arg
		65					70				75		80		
Thr	Val	Val	Ala	Leu	Gly	Asn	Ala	Phe	Asn	Gly	Ala	Leu	Pro	Gly	Thr
								85			90		95		
Val	Gln	Ser	Ala	Gln	Ser	Phe	Phe	Ser	His	Met	Lys	Ala	Ala	Ser	Gln
								100		105			110		
Lys	Thr	Gln	Glu	Gly	Asp	Glu	Gly	Leu	Thr	Ala	Asp	Leu	Cys	Val	Ser
		115					120					125			
His	Lys	Arg	Arg	Ala	Ala	Ala	Ala	Val	Cys	Ser	Ile	Ile	Gly	Gly	Ile
		130					135				140				
Thr	Tyr	Leu	Ala	Thr	Phe	Gly	Ala	Ile	Arg	Pro	Ile	Leu	Phe	Val	Asn
		145					150				155		160		
Lys	Met	Leu	Ala	Lys	Pro	Phe	Leu	Ser	Ser	Gln	Thr	Lys	Ala	Asn	Met
							165			170		175			
Gly	Ser	Ser	Val	Ser	Tyr	Ile	Met	Ala	Ala	Asn	His	Ala	Ala	Ser	Val
							180			185		190			
Val	Gly	Ala	Gly	Leu	Ala	Ile	Ser	Ala	Glu	Arg	Ala	Asp	Cys	Glu	Ala
		195					200			205					
Arg	Cys	Ala	Arg	Ile	Ala	Arg	Glu	Glu	Ser	Leu	Leu	Glu	Met	Pro	Gly
		210					215			220					
Glu	Glu	Asn	Ala	Cys	Glu	Lys	Lys	Val	Ala	Gly	Glu	Lys	Ala	Lys	Thr
		225				230				235			240		
Phe	Thr	Arg	Ile	Lys	Tyr	Ala	Leu	Leu	Thr	Met	Leu	Glu	Lys	Phe	Leu
							245			250			255		
Glu	Cys	Val	Ala	Asp	Val	Phe	Lys	Leu	Val	Pro	Leu	Pro	Ile	Thr	Met
							260			265			270		
Gly	Ile	Arg	Ala	Ile	Val	Ala	Ala	Gly	Cys	Thr	Phe	Thr	Ser	Ala	Ile
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Ile	Gly	Leu	Cys	Thr	Phe	Cys	Ala	Arg	Ala						
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<210> 136

<211> 882

<212> DNA

<213> Chlamydia

<400> 136

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ataaaagggtt	ggaagtctgc	tgctgaatta	acggcgagta	tttttagagca	aactgggggg	180
gcaggggactg	atgcacatgt	tacggcggcc	aagggtgtcta	aagcacattgg	ggacgcgcga	240
acagtaatgg	ctctagggaa	tgtcttcaat	gggtctgtgc	cagcaaccat	tcaaagtgcg	300
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<210> 137

<211> 293

<212> PRT

<213> Chlamydia

<400> 137

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Ser Ala Lys Gly Leu Asp Arg Ser Ile Lys Val Gly Lys Ser Ala Ala	
35 40 45	
Glu Leu Thr Ala Ser Ile Leu Glu Gln Thr Gly Gly Ala Gly Thr Asp	
50 55 60	
Ala His Val Thr Ala Ala Lys Val Ser Lys Ala Leu Gly Asp Ala Arg	
65 70 75 80	
Thr Val Met Ala Leu Gly Asn Val Phe Asn Gly Ser Val Pro Ala Thr	
85 90 95	
Ile Gln Ser Ala Arg Ser Cys Leu Ala His Leu Arg Ala Ala Gly Lys	
100 105 110	
Glu Glu Glu Thr Cys Ser Lys Val Lys Asp Leu Cys Val Ser His Arg	
115 120 125	
Arg Arg Ala Ala Ala Glu Ala Cys Asn Val Ile Gly Gly Ala Thr Tyr	
130 135 140	
Ile Thr Thr Phe Gly Ala Ile Arg Pro Thr Leu Leu Val Asn Lys Leu	
145 150 155 160	
Leu Ala Lys Pro Phe Leu Ser Ser Gln Ala Lys Glu Gly Leu Gly Ala	
165 170 175	
Ser Val Gly Tyr Ile Met Ala Ala Asn His Ala Ala Ser Val Leu Gly	
180 185 190	
Ser Ala Leu Ser Ile Ser Ala Glu Arg Ala Asp Cys Glu Glu Arg Cys	
195 200 205	
Asp Arg Ile Arg Cys Ser Glu Asp Gly Glu Ile Cys Glu Gly Asn Lys	
210 215 220	
Leu Thr Ala Ile Ser Glu Glu Lys Ala Arg Ser Trp Thr Leu Ile Lys	
225 230 235 240	
Tyr Arg Phe Leu Thr Met Ile Glu Lys Leu Phe Glu Met Val Ala Asp	
245 250 255	
Ile Phe Lys Leu Ile Pro Leu Pro Ile Ser His Gly Ile Arg Ala Ile	
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Val Ala Ala Gly Cys Thr Leu Thr Ser Ala Val Ile Gly Leu Gly Thr	
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Phe Trp Ser Arg Ala	
290	

<210> 138

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 138
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1 5 10 15

<210> 139
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 139
Arg Ala Ala Ala Ala Val Cys Ser Phe Ile Gly Gly Ile Thr Tyr Leu
1 5 10 15

<210> 140
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 140
Cys Ser Phe Ile Gly Gly Ile Thr Tyr Leu Ala Thr Phe Gly Ala Ile
1 5 10 15

Arg Pro

<210> 141
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 14
Tyr Leu Ala Thr Phe Gly Ala Ile Arg Pro Ile Leu Phe Val Asn Lys
1 5 10 15

Met Leu

<210> 142
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 142
Arg Pro Ile Leu Phe Val Asn Lys Met Leu Ala Gln Pro Phe Leu Ser
1 5 10 15

Ser Gln

<210> 143
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 143

Met Leu Ala Gln Pro Phe Leu Ser Ser Gln Thr Lys Ala Asn Met Gly
1 5 10 15
Ser

<210> 144
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 144

Cys Ser Phe Ile Gly Gly Ile Thr Tyr Leu
1 5 10

<210> 145
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 145

Ser Phe Ile Gly Gly Ile Thr Tyr Leu
1 5

<210> 146
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 146

Phe Ile Gly Gly Ile Thr Tyr Leu
1 5

<210> 147
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 147
Cys Ser Phe Ile Gly Gly Ile Thr Tyr
1 5

<210> 148
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 148
Cys Ser Phe Ile Gly Gly Ile Thr
1 5

<210> 149
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 149
Cys Ser Ile Ile Gly Gly Ile Thr Tyr Leu
1 5 10

<210> 150
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 150
Cys Gly Phe Ile Gly Gly Ile Thr Tyr Leu
1 5 10

<210> 151
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 151
Gly Phe Ile Gly Gly Ile Thr Tyr Leu
1 5

<210> 152
<211> 20

<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 152
Gln Ile Phe Val Cys Leu Ile Ser Ala Glu Arg Leu Arg Leu Arg Leu
1 5 10 15
Ser Val Ala Ser
20

<210> 153
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 153
Glu Arg Leu Arg Leu Arg Leu Ser Val Ala Ser Ser Glu Glu Leu Pro
1 5 10 15
Thr Ser Arg His
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<210> 154
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 154
Ala Ser Ser Glu Glu Leu Pro Thr Ser Arg His Ser Glu Leu Ser Val
1 5 10 15
Arg Phe Cys Leu
20

<210> 155
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 155
Arg His Ser Glu Leu Ser Val Arg Phe Cys Leu Ser Thr Lys Cys Trp
1 5 10 15
Arg Asn Arg Phe
20

<210> 156
<211> 20
<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 156

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Gln	Ile	Trp	Asp												
			20												

<210> 157

<211> 53

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 157

Ile	Phe	Val	Cys	Leu	Ile	Ser	Ala	Glu	Arg	Leu	Arg	Leu	Ser	Val	Ala
1					5				10				15		
Ser	Ser	Glu	Glu	Leu	Pro	Thr	Ser	Arg	His	Ser	Glu	Leu	Ser	Val	Arg
					20			25				30			
Phe	Cys	Leu	Ser	Thr	Lys	Cys	Trp	Arg	Asn	Arg	Phe	Phe	Leu	Pro	Lys
					35			40				45			
Leu	Lys	Gln	Ile	Trp											
			50												

<210> 158

<211> 52

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 158

Leu	Cys	Val	Ser	His	Lys	Arg	Arg	Ala	Ala	Ala	Ala	Val	Cys	Ser	Phe
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Ile	Gly	Gly	Ile	Thr	Tyr	Leu	Ala	Thr	Phe	Gly	Ala	Ile	Arg	Pro	Ile
					20			25				30			
Leu	Phe	Val	Asn	Lys	Met	Leu	Ala	Gln	Pro	Phe	Leu	Ser	Ser	Gln	Ile
					35			40				45			
Lys	Ala	Asn	Met												
			50												

<210> 159

<211> 24

<212> DNA

<213> Chlamydia

<400> 159

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<210> 160

<211> 24

<212> DNA		
<213> Chlamydia		
<400> 160		
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<211> 24		
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<213> Chlamydia		
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<210> 167		
<211> 9		
<212> PRT		

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 167

Ser Phe Ile Gly Gly Ile Thr Tyr Leu
1 5

<210> 168

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 168

Ser Ile Ile Gly Gly Ile Thr Tyr Leu
1 5

<210> 169

<211> 2643

<212> DNA

<213> Chlamydia

<400> 169

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<211> 2949

<212> DNA

<213> Chlamydia

<400> 170

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<212> DNA

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<211> 4593

<212> DNA

<213> Chlamydia

<400> 172

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<211> 5331

<212> DNA

<213> Chlamydia

<400> 173

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<210> 174
<211> 5265
<212> DNA
<213> Chlamydia

<400> 174						
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<210> 175

<211> 880

<212> PRT

<213> Chlamydia

<220>

<221> VARIANT

<222> (1)...(880)

<223> Xaa = Any Amino Acid

<400> 175

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Thr Ala Leu Leu Thr Lys Asn Pro Asn His Val Val Cys Thr Phe Phe	
35 40 45	
Glu Asp Cys Thr Met Glu Ser Leu Phe Pro Ala Leu Cys Ala His Ala	
50 55 60	
Ser Gln Asp Asp Pro Leu Tyr Val Leu Gly Asn Ser Tyr Cys Trp Phe	
65 70 75 80	
Val Ser Lys Leu His Ile Thr Asp Pro Lys Glu Ala Leu Phe Lys Glu	
85 90 95	
Lys Gly Asp Leu Ser Ile Gln Asn Phe Arg Phe Leu Ser Phe Thr Asp	
100 105 110	
Cys Ser Ser Lys Glu Ser Ser Pro Ser Ile Ile His Gln Lys Asn Gly	
115 120 125	
Gln Leu Ser Leu Arg Asn Asn Gly Ser Met Ser Phe Cys Arg Asn His	
130 135 140	
Ala Glu Gly Ser Gly Gly Ala Ile Ser Ala Asp Ala Phe Ser Leu Gln	
145 150 155 160	
His Asn Tyr Leu Phe Thr Ala Phe Glu Glu Asn Ser Ser Lys Gly Asn	
165 170 175	
Gly Gly Ala Ile Gln Ala Gln Thr Phe Ser Leu Ser Arg Asn Val Ser	
180 185 190	
Pro Ile Ser Phe Ala Arg Asn Arg Ala Asp Leu Asn Gly Gly Ala Ile	
195 200 205	
Cys Cys Ser Asn Leu Ile Cys Ser Gly Asn Val Asn Pro Leu Phe Phe	
210 215 220	
Thr Gly Asn Ser Ala Thr Asn Gly Gly Ala Ile Cys Cys Ile Ser Asp	
225 230 235 240	
Leu Asn Thr Ser Glu Lys Gly Ser Leu Ser Leu Ala Cys Asn Gln Glu	
245 250 255	
Thr Leu Phe Ala Ser Asn Ser Ala Lys Glu Lys Gly Gly Ala Ile Tyr	
260 265 270	
Ala Lys His Met Val Leu Arg Tyr Asn Gly Pro Val Ser Phe Ile Asn	
275 280 285	
Asn Ser Ala Lys Ile Gly Gly Ala Ile Ala Ile Gln Ser Gly Gly Ser	

290	295	300
Leu	Ser	Ile
Leu	Ala	Gly
Glu	Gly	Ser
Val	Leu	Phe
		Gln
		Asn
		Asn
		Ser
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		320
Gln	Arg	Thr
Ser	Asp	Gln
Gly	Leu	Val
		Arg
		Asn
		Ala
		Ile
		Tyr
		Leu
		Xaa
325	330	335
Lys	Asp	Ala
Ile	Leu	Ser
Ser	Leu	Glu
		Ala
		Arg
		Asn
		Gly
		Asp
		Ile
340	345	350
Phe	Phe	Asp
Pro	Ile	Val
Gln	Glu	Ser
Ser	Ser	Ser
Lys	Glu	Ser
		Pro
		Asp
		Ser
		Pro
		Leu
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Pro	Ser	Ser
Leu	Gln	Ala
Ser	Val	Thr
		Ser
		Pro
		Thr
		Pro
		Ala
370	375	380
Ser	Pro	Leu
Val	Ile	Gln
		Thr
		Ser
		Ala
		Asn
		Arg
		Ser
385	390	395
		400
Ser	Glu	Arg
Leu	Ser	Glu
Glu	Glu	Lys
		Thr
		Pro
		Asp
		Asn
		Leu
		Thr
405	410	415
Gln	Leu	Gln
Gln	Pro	Ile
Glu	Leu	Lys
		Ser
		Gly
		Arg
		Leu
420	425	430
Asp	Arg	Ala
Val	Leu	Ser
Ala	Pro	Ser
		Leu
		Ser
		Gln
435	440	445
Leu	Leu	Ile
Met	Glu	Ala
		Gly
		Thr
		Ser
		Leu
		Lys
450	455	460
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		Thr
		Leu
		Ser
		Ile
		Pro
		Leu
		His
465	470	475
		480
Ser	Val	Thr
Ile	His	Ala
Pro	Asn	Leu
		Ser
		Ile
		Gln
485	490	495
Ser	Asn	Ser
Gly	Asp	Glu
Asn	Phe	Tyr
		Glu
		Asn
		Val
500	505	510
Lys	Glu	Gln
Asn	Asn	Ile
		Pro
		Leu
		Leu
		Thr
515	520	525
His	Leu	His
Leu	Pro	Asp
Gly	Asn	Leu
		Ser
		Ser
		His
530	535	540
Gly	Asp	Trp
Trp	Thr	Phe
		Ser
		Trp
		Lys
545	550	555
		560
Ile	Ala	Asn
Trp	Thr	Pro
		Lys
		Asn
		Tyr
		Val
565	570	575
Ser	Thr	Leu
Leu	Ala	Asn
		Thr
		Leu
		Trp
580	585	590
Ala	Val	Gln
Ser	Met	Ile
		Asn
		Thr
		Thr
		Ala
595	600	605
Phe	Gly	Thr
Trp	Gly	Ser
		Ala
		Val
		Ser
		Asn
610	615	620
Ser	Ser	Gly
		Pro
		Ile
		Asp
625	630	635
		640
Leu	Phe	Gly
Ile	Ser	Thr
		His
		Ser
		Leu
645	650	655
Ala	Ala	Gly
Gln	Leu	Leu
		Gly
		Lys
		Ser
660	665	670
Thr	Glu	Thr
Thr	Ser	Tyr
Ile	Ala	Thr
		Val
		Gln
675	680	685
Ser	Leu	Met
		Lys
		Ile
		Ser
690	695	700
Glu	Leu	Lys
		Thr
		Lys
		Tyr
705	710	715
Trp	His	Ser
His	Val	Ala
		Val
		Ser
		Gly
725	730	735
Val	Ser	Asn
		Gly
		Ser
		Gly
740	745	750

Leu Gln Gly Phe Ser Gly Thr Gln Asp Gly Phe Glu Glu Ser Ser Gly
 755 760 765
 Glu Ile Arg Ser Phe Ser Ala Ser Ser Phe Arg Asn Ile Ser Leu Pro
 770 775 780
 Ile Gly Ile Thr Phe Glu Lys Lys Ser Gln Lys Thr Arg Thr Tyr Tyr
 785 790 795 800
 Tyr Phe Leu Gly Ala Tyr Ile Gln Asp Leu Lys Arg Asp Val Glu Ser
 805 810 815
 Gly Pro Val Val Leu Leu Lys Asn Ala Val Ser Trp Asp Ala Pro Met
 820 825 830
 Ala Asn Leu Asp Ser Arg Ala Tyr Met Phe Arg Leu Thr Asn Gln Arg
 835 840 845
 Ala Leu His Arg Leu Gln Thr Leu Leu Asn Val Ser Cys Val Leu Arg
 850 855 860
 Gly Gln Ser His Ser Tyr Ser Leu Asp Leu Gly Thr Thr Tyr Arg Phe
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<210> 176

<211> 982

<212> PRT

<213> Chlamydia

<220>

<221> VARIANT

<222> (1)...(982)

<223> Xaa = Any Amino Acid

<400> 176

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 35 40 45
 Leu Ser Cys Phe Gly Asn Leu Leu Gly Ser Phe Thr Val Leu Gly Arg
 50 55 60
 Gly His Ser Leu Thr Phe Glu Asn Ile Arg Thr Ser Thr Asn Gly Ala
 65 70 75 80
 Ala Leu Ser Asn Ser Ala Ala Asp Gly Leu Phe Thr Ile Glu Gly Phe
 85 90 95
 Lys Glu Leu Ser Phe Ser Asn Cys Asn Ser Leu Leu Ala Val Leu Pro
 100 105 110
 Ala Ala Thr Thr Asn Lys Gly Ser Gln Thr Pro Thr Thr Ser Thr
 115 120 125
 Pro Ser Asn Gly Thr Ile Tyr Ser Lys Thr Asp Leu Leu Leu Asn
 130 135 140
 Asn Glu Lys Phe Ser Phe Tyr Ser Asn Leu Val Ser Gly Asp Gly Gly
 145 150 155 160
 Ala Ile Asp Ala Lys Ser Leu Thr Val Gln Gly Ile Ser Lys Leu Cys
 165 170 175
 Val Phe Gln Glu Asn Thr Ala Gln Ala Asp Gly Gly Ala Cys Gln Val
 180 185 190
 Val Thr Ser Phe Ser Ala Met Ala Asn Glu Ala Pro Ile Ala Phe Val
 195 200 205
 Ala Asn Val Ala Gly Val Arg Gly Gly Gly Ile Ala Ala Val Gln Asp
 210 215 220
 Gly Gln Gln Gly Val Ser Ser Ser Thr Ser Thr Glu Asp Pro Val Val

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Val Gly Gly Gly Ile Tyr Ser Tyr Gly Asn Val Ala Phe Leu Asn Asn			
260	265	270	
Gly Lys Thr Leu Phe Leu Asn Asn Val Ala Ser Pro Val Tyr Ile Ala			
275	280	285	
Ala Lys Gln Pro Thr Ser Gly Gln Ala Ser Asn Thr Ser Asn Asn Tyr			
290	295	300	
Gly Asp Gly Gly Ala Ile Phe Cys Lys Asn Gly Ala Gln Ala Gly Ser			
305	310	315	320
Asn Asn Ser Gly Ser Val Ser Phe Asp Gly Glu Gly Val Val Phe Phe			
325	330	335	
Ser Ser Asn Val Ala Ala Gly Lys Gly Ala Ile Tyr Ala Lys Lys			
340	345	350	
Leu Ser Val Ala Asn Cys Gly Pro Val Gln Phe Leu Arg Asn Ile Ala			
355	360	365	
Asn Asp Gly Gly Ala Ile Tyr Leu Gly Glu Ser Gly Glu Leu Ser Leu			
370	375	380	
Ser Ala Asp Tyr Gly Asp Ile Ile Phe Asp Gly Asn Leu Lys Arg Thr			
385	390	395	400
Ala Lys Glu Asn Ala Ala Asp Val Asn Gly Val Thr Val Ser Ser Gln			
405	410	415	
Ala Ile Ser Met Gly Ser Gly Gly Lys Ile Thr Thr Leu Arg Ala Lys			
420	425	430	
Ala Gly His Gln Ile Leu Phe Asn Asp Pro Ile Glu Met Ala Asn Gly			
435	440	445	
Asn Asn Gln Pro Ala Gln Ser Ser Lys Leu Leu Lys Ile Asn Asp Gly			
450	455	460	
Glu Gly Tyr Thr Gly Asp Ile Val Phe Ala Asn Gly Ser Ser Thr Leu			
465	470	475	480
Tyr Gln Asn Val Thr Ile Glu Gln Gly Arg Ile Val Leu Arg Glu Lys			
485	490	495	
Ala Lys Leu Ser Val Asn Ser Leu Ser Gln Thr Gly Gly Ser Leu Tyr			
500	505	510	
Met Glu Ala Gly Ser Thr Leu Asp Phe Val Thr Pro Gln Pro Pro Gln			
515	520	525	
Gln Pro Pro Ala Ala Asn Gln Leu Ile Thr Leu Ser Asn Leu His Leu			
530	535	540	
Ser Leu Ser Ser Leu Leu Ala Asn Asn Ala Val Thr Asn Pro Pro Thr			
545	550	555	560
Asn Pro Pro Ala Gln Asp Ser His Pro Ala Val Ile Gly Ser Thr Thr			
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Ala Gly Ser Val Thr Ile Ser Gly Pro Ile Phe Phe Glu Asp Leu Asp			
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Asp Thr Ala Tyr Asp Arg Tyr Asp Trp Leu Gly Ser Asn Gln Lys Ile			
595	600	605	
Asn Val Leu Lys Leu Gln Leu Gly Thr Lys Pro Pro Ala Asn Ala Pro			
610	615	620	
Ser Asp Leu Thr Leu Gly Asn Glu Met Pro Lys Tyr Gly Tyr Gln Gly			
625	630	635	640
Ser Trp Lys Leu Ala Trp Asp Pro Asn Thr Ala Asn Asn Gly Pro Tyr			
645	650	655	
Thr Leu Lys Ala Thr Trp Thr Lys Thr Gly Tyr Asn Pro Gly Pro Glu			
660	665	670	
Arg Val Ala Ser Leu Val Pro Asn Ser Leu Trp Gly Ser Ile Leu Asp			
675	680	685	

Ile Arg Ser Ala His Ser Ala Ile Gln Ala Ser Val Asp Gly Arg Ser
 690 695 700
 Tyr Cys Arg Gly Leu Trp Val Ser Gly Val Ser Asn Phe Phe Tyr His
 705 710 715 720
 Asp Arg Asp Ala Leu Gly Gln Gly Tyr Arg Tyr Ile Ser Gly Gly Tyr
 725 730 735
 Ser Leu Gly Ala Asn Ser Tyr Phe Gly Ser Ser Met Phe Gly Leu Ala
 740 745 750
 Phe Thr Glu Val Phe Gly Arg Ser Lys Asp Tyr Val Val Cys Arg Ser
 755 760 765
 Asn His His Ala Cys Ile Gly Ser Val Tyr Leu Ser Thr Gln Gln Ala
 770 775 780
 Leu Cys Gly Ser Tyr Leu Phe Gly Asp Ala Phe Ile Arg Ala Ser Tyr
 785 790 795 800
 Gly Phe Gly Asn Gln His Met Lys Thr Ser Tyr Thr Phe Ala Glu Glu
 805 810 815
 Ser Asp Val Arg Trp Asp Asn Asn Cys Leu Ala Gly Glu Ile Gly Ala
 820 825 830
 Gly Leu Pro Ile Val Ile Thr Pro Ser Lys Leu Tyr Leu Asn Glu Leu
 835 840 845
 Arg Pro Phe Val Gln Ala Glu Phe Ser Tyr Ala Asp His Glu Ser Phe
 850 855 860
 Thr Glu Glu Gly Asp Gln Ala Arg Ala Phe Lys Ser Gly His Leu Leu
 865 870 875 880
 Asn Leu Ser Val Pro Val Gly Val Lys Phe Asp Arg Cys Ser Ser Thr
 885 890 895
 His Pro Asn Lys Tyr Ser Phe Met Ala Ala Tyr Ile Cys Asp Ala Tyr
 900 905 910
 Arg Thr Ile Ser Gly Thr Glu Thr Thr Leu Leu Ser His Gln Glu Thr
 915 920 925
 Trp Thr Thr Asp Ala Phe His Leu Ala Arg His Gly Val Val Val Arg
 930 935 940
 Gly Ser Met Tyr Ala Ser Leu Thr Ser Asn Ile Glu Val Tyr Gly His
 945 950 955 960
 Gly Arg Tyr Glu Tyr Arg Asp Ala Ser Arg Gly Tyr Gly Leu Ser Ala
 965 970 975
 Gly Ser Lys Val Xaa Phe
 980

<210> 177

<211> 964

<212> PRT

<213> Chlamydia

<400> 177

Met Lys Lys Ala Phe Phe Phe Leu Ile Gly Asn Ser Leu Ser Gly
 1 5 10 15
 Leu Ala Arg Glu Val Pro Ser Arg Ile Phe Leu Met Pro Asn Ser Val
 20 25 30
 Pro Asp Pro Thr Lys Glu Ser Leu Ser Asn Lys Ile Ser Leu Thr Gly
 35 40 45
 Asp Thr His Asn Leu Thr Asn Cys Tyr Leu Asp Asn Leu Arg Tyr Ile
 50 55 60
 Leu Ala Ile Leu Gln Lys Thr Pro Asn Glu Gly Ala Ala Val Thr Ile
 65 70 75 80
 Thr Asp Tyr Leu Ser Phe Phe Asp Thr Gln Lys Glu Gly Ile Tyr Phe
 85 90 95

Ala Lys Asn Leu Thr Pro Glu Ser Gly Gly Ala Ile Gly Tyr Ala Ser
 100 105 110
 Pro Asn Ser Pro Thr Val Glu Ile Arg Asp Thr Ile Gly Pro Val Ile
 115 120 125
 Phe Glu Asn Asn Thr Cys Cys Arg Leu Phe Thr Trp Arg Asn Pro Tyr
 130 135 140
 Ala Ala Asp Lys Ile Arg Glu Gly Gly Ala Ile His Ala Gln Asn Leu
 145 150 155 160
 Tyr Ile Asn His Asn His Asp Val Val Gly Phe Met Lys Asn Phe Ser
 165 170 175
 Tyr Val Gln Gly Gly Ala Ile Ser Thr Ala Asn Thr Phe Val Val Ser
 180 185 190
 Glu Asn Gln Ser Cys Phe Leu Phe Met Asp Asn Ile Cys Ile Gln Thr
 195 200 205
 Asn Thr Ala Gly Lys Gly Ala Ile Tyr Ala Gly Thr Ser Asn Ser
 210 215 220
 Phe Glu Ser Asn Asn Cys Asp Leu Phe Phe Ile Asn Asn Ala Cys Cys
 225 230 235 240
 Ala Gly Gly Ala Ile Phe Ser Pro Ile Cys Ser Leu Thr Gly Asn Arg
 245 250 255
 Gly Asn Ile Val Phe Tyr Asn Asn Arg Cys Phe Lys Asn Val Glu Thr
 260 265 270
 Ala Ser Ser Glu Ala Ser Asp Gly Gly Ala Ile Lys Val Thr Thr Arg
 275 280 285
 Leu Asp Val Thr Gly Asn Arg Gly Arg Ile Phe Phe Ser Asp Asn Ile
 290 295 300
 Thr Lys Asn Tyr Gly Gly Ala Ile Tyr Ala Pro Val Val Thr Leu Val
 305 310 315 320
 Asp Asn Gly Pro Thr Tyr Phe Ile Asn Asn Ile Ala Asn Asn Lys Gly
 325 330 335
 Gly Ala Ile Tyr Ile Asp Gly Thr Ser Asn Ser Lys Ile Ser Ala Asp
 340 345 350
 Arg His Ala Ile Ile Phe Asn Glu Asn Ile Val Thr Asn Val Thr Asn
 355 360 365
 Ala Asn Gly Thr Ser Thr Ser Ala Asn Pro Pro Arg Arg Asn Ala Ile
 370 375 380
 Thr Val Ala Ser Ser Ser Gly Glu Ile Leu Leu Gly Ala Gly Ser Ser
 385 390 395 400
 Gln Asn Leu Ile Phe Tyr Asp Pro Ile Glu Val Ser Asn Ala Gly Val
 405 410 415
 Ser Val Ser Phe Asn Lys Glu Ala Asp Gln Thr Gly Ser Val Val Phe
 420 425 430
 Ser Gly Ala Thr Val Asn Ser Ala Asp Phe His Gln Arg Asn Leu Gln
 435 440 445
 Thr Lys Thr Pro Ala Pro Leu Thr Leu Ser Asn Gly Phe Leu Cys Ile
 450 455 460
 Glu Asp His Ala Gln Leu Thr Val Asn Arg Phe Thr Gln Thr Gly Gly
 465 470 475 480
 Val Val Ser Leu Gly Asn Gly Ala Val Leu Ser Cys Tyr Lys Asn Gly
 485 490 495
 Thr Gly Asp Ser Ala Ser Asn Ala Ser Ile Thr Leu Lys His Ile Gly
 500 505 510
 Leu Asn Leu Ser Ser Ile Leu Lys Ser Gly Ala Glu Ile Pro Leu Leu
 515 520 525
 Trp Val Glu Pro Thr Asn Asn Ser Asn Asn Tyr Thr Ala Asp Thr Ala
 530 535 540
 Ala Thr Phe Ser Leu Ser Asp Val Lys Leu Ser Leu Ile Asp Asp Tyr

545	550	555	560
Gly Asn Ser Pro Tyr	Glu Ser Thr Asp Leu Thr His Ala Leu Ser Ser		
565	570	575	
Gln Pro Met Leu Ser Ile Ser	Glu Ala Ser Asp Asn Gln Leu Gln Ser		
580	585	590	
Glu Asn Ile Asp Phe Ser Gly	Leu Asn Val Pro His Tyr Gly Trp Gln		
595	600	605	
Gly Leu Trp Thr Trp Gly	Trp Ala Lys Thr Gln Asp Pro Glu Pro Ala		
610	615	620	
Ser Ser Ala Thr Ile Thr Asp Pro Gln Lys Ala Asn Arg Phe His Arg			
625	630	635	640
Thr Leu Leu Leu Thr Trp Leu Pro Ala	Gly Tyr Val Pro Ser Pro Lys		
645	650	655	
His Arg Ser Pro Leu Ile Ala Asn Thr Leu Trp Gly Asn Met Leu Leu			
660	665	670	
Ala Thr Glu Ser Leu Lys Asn Ser Ala Glu Leu Thr Pro Ser Gly His			
675	680	685	
Pro Phe Trp Gly Ile Thr Gly Gly Leu Gly Met Met Val Tyr Gln			
690	695	700	
Asp Pro Arg Glu Asn His Pro Gly Phe His Met Arg Ser Ser Gly Tyr			
705	710	715	720
Ser Ala Gly Met Ile Ala Gly Gln Thr His Thr Phe Ser Leu Lys Phe			
725	730	735	
Ser Gln Thr Tyr Thr Lys Leu Asn Glu Arg Tyr Ala Lys Asn Asn Val			
740	745	750	
Ser Ser Lys Asn Tyr Ser Cys Gln Gly Glu Met Leu Phe Ser Leu Gln			
755	760	765	
Glu Gly Phe Leu Leu Thr Lys Leu Val Gly Leu Tyr Ser Tyr Gly Asp			
770	775	780	
His Asn Cys His His Phe Tyr Thr Gln Gly Glu Asn Leu Thr Ser Gln			
785	790	795	800
Gly Thr Phe Arg Ser Gln Thr Met Gly Gly Ala Val Phe Phe Asp Leu			
805	810	815	
Pro Met Lys Pro Phe Gly Ser Thr His Ile Leu Thr Ala Pro Phe Leu			
820	825	830	
Gly Ala Leu Gly Ile Tyr Ser Ser Leu Ser His Phe Thr Glu Val Gly			
835	840	845	
Ala Tyr Pro Arg Ser Phe Ser Thr Lys Thr Pro Leu Ile Asn Val Leu			
850	855	860	
Val Pro Ile Gly Val Lys Gly Ser Phe Met Asn Ala Thr His Arg Pro			
865	870	875	880
Gln Ala Trp Thr Val Glu Leu Ala Tyr Gln Pro Val Leu Tyr Arg Gln			
885	890	895	
Glu Pro Gly Ile Ala Thr Gln Leu Leu Ala Ser Lys Gly Ile Trp Phe			
900	905	910	
Gly Ser Gly Ser Pro Ser Ser Arg His Ala Met Ser Tyr Lys Ile Ser			
915	920	925	
Gln Gln Thr Gln Pro Leu Ser Trp Leu Thr Leu His Phe Gln Tyr His			
930	935	940	
Gly Phe Tyr Ser Ser Ser Thr Phe Cys Asn Tyr Leu Asn Gly Glu Ile			
945	950	955	960
Ala Leu Arg Phe			

<210> 178
<211> 1530
<212> PRT

<213> Chlamydia

<400> 178

Met	Ser	Ser	Glu	Lys	Asp	Ile	Lys	Ser	Thr	Cys	Ser	Lys	Phe	Ser	Leu
1			5				10					15			
Ser	Val	Val	Ala	Ala	Ile	Leu	Ala	Ser	Val	Ser	Gly	Leu	Ala	Ser	Cys
	20						25					30			
Val	Asp	Leu	His	Ala	Gly	Gly	Gln	Ser	Val	Asn	Glu	Leu	Val	Tyr	Val
	35				40						45				
Gly	Pro	Gln	Ala	Val	Leu	Leu	Asp	Gln	Ile	Arg	Asp	Leu	Phe	Val	
	50				55					60					
Gly	Ser	Lys	Asp	Ser	Gln	Ala	Glu	Gly	Gln	Tyr	Arg	Leu	Ile	Val	Gly
65					70			75				80			
Asp	Pro	Ser	Ser	Phe	Gln	Glu	Lys	Asp	Ala	Asp	Thr	Leu	Pro	Gly	Lys
	85					90					95				
Val	Glu	Gln	Ser	Thr	Leu	Phe	Ser	Val	Thr	Asn	Pro	Val	Val	Phe	Gln
	100					105			105			110			
Gly	Val	Asp	Gln	Gln	Asp	Gln	Val	Ser	Ser	Gln	Gly	Leu	Ile	Cys	Ser
	115					120					125				
Phe	Thr	Ser	Ser	Asn	Leu	Asp	Ser	Pro	Arg	Asp	Gly	Glu	Ser	Phe	Leu
130					135				140						
Gly	Ile	Ala	Phe	Val	Gly	Asp	Ser	Ser	Lys	Ala	Gly	Ile	Thr	Leu	Thr
145					150				155			160			
Asp	Val	Lys	Ala	Ser	Leu	Ser	Gly	Ala	Ala	Leu	Tyr	Ser	Thr	Glu	Asp
	165					170				170			175		
Leu	Ile	Phe	Glu	Lys	Ile	Lys	Gly	Gly	Leu	Glu	Phe	Ala	Ser	Cys	Ser
	180					185				185			190		
Ser	Leu	Glu	Gln	Gly	Gly	Ala	Cys	Ala	Ala	Gln	Ser	Ile	Leu	Ile	His
	195					200				200			205		
Asp	Cys	Gln	Gly	Leu	Gln	Val	Lys	His	Cys	Thr	Thr	Ala	Val	Asn	Ala
210					215				215			220			
Glu	Gly	Ser	Ser	Ala	Asn	Asp	His	Leu	Gly	Phe	Gly	Gly	Ala	Phe	
225					230				235			240			
Phe	Val	Thr	Gly	Ser	Leu	Ser	Gly	Glu	Lys	Ser	Leu	Tyr	Met	Pro	Ala
	245					250			250			255			
Gly	Asp	Met	Val	Val	Ala	Asn	Cys	Asp	Gly	Ala	Ile	Ser	Phe	Glu	Gly
	260					265			265			270			
Asn	Ser	Ala	Asn	Phe	Ala	Asn	Gly	Gly	Ala	Ile	Ala	Ala	Ser	Gly	Lys
	275					280			280			285			
Val	Leu	Phe	Val	Ala	Asn	Asp	Lys	Lys	Thr	Ser	Phe	Ile	Glu	Asn	Arg
290						295			295			300			
Ala	Leu	Ser	Gly	Gly	Ala	Ile	Ala	Ala	Ser	Ser	Asp	Ile	Ala	Phe	Gln
305					310			310			315			320	
Asn	Cys	Ala	Glu	Leu	Val	Phe	Lys	Gly	Asn	Cys	Ala	Ile	Gly	Thr	Glu
	325					330			330			335			
Asp	Lys	Gly	Ser	Leu	Gly	Gly	Ala	Ile	Ser	Ser	Leu	Gly	Thr	Val	
	340					345			345			350			
Leu	Leu	Gln	Gly	Asn	His	Gly	Ile	Thr	Cys	Asp	Lys	Asn	Glu	Ser	Ala
	355					360			360			365			
Ser	Gln	Gly	Gly	Ala	Ile	Phe	Gly	Lys	Asn	Cys	Gln	Ile	Ser	Asp	Asn
	370					375			375			380			
Glu	Gly	Pro	Val	Val	Phe	Arg	Asp	Ser	Thr	Ala	Cys	Leu	Gly	Gly	Gly
385					390				395			400			
Ala	Ile	Ala	Ala	Gln	Glu	Ile	Val	Ser	Ile	Gln	Asn	Asn	Gln	Ala	Gly
	405					410			410			415			
Ile	Ser	Phe	Glu	Gly	Gly	Lys	Ala	Ser	Phe	Gly	Gly	Ile	Ala	Cys	
	420					425			425			430			

Gly Ser Phe Ser Ser Ala Gly Gly Ala Ser Val Leu Gly Thr Ile Asp
 435 440 445
 Ile Ser Lys Asn Leu Gly Ala Ile Ser Phe Ser Arg Thr Leu Cys Thr
 450 455 460
 Thr Ser Asp Leu Gly Gln Met Glu Tyr Gln Gly Gly Ala Leu Phe
 465 470 475 480
 Gly Glu Asn Ile Ser Leu Ser Glu Asn Ala Gly Val Leu Thr Phe Lys
 485 490 495
 Asp Asn Ile Val Lys Thr Phe Ala Ser Asn Gly Lys Ile Leu Gly Gly
 500 505 510
 Gly Ala Ile Leu Ala Thr Gly Lys Val Glu Ile Thr Asn Asn Ser Gly
 515 520 525
 Gly Ile Ser Phe Thr Gly Asn Ala Arg Ala Pro Gln Ala Leu Pro Thr
 530 535 540
 Gln Glu Glu Phe Pro Leu Phe Ser Lys Lys Glu Gly Arg Pro Leu Ser
 545 550 555 560
 Ser Gly Tyr Ser Gly Gly Ala Ile Leu Gly Arg Glu Val Ala Ile
 565 570 575
 Leu His Asn Ala Ala Val Val Phe Glu Gln Asn Arg Leu Gln Cys Ser
 580 585 590
 Glu Glu Glu Ala Thr Leu Leu Gly Cys Cys Gly Gly Ala Val His
 595 600 605
 Gly Met Asp Ser Thr Ser Ile Val Gly Asn Ser Ser Val Arg Phe Gly
 610 615 620
 Asn Asn Tyr Ala Met Gly Gln Gly Val Ser Gly Gly Ala Leu Leu Ser
 625 630 635 640
 Lys Thr Val Gln Leu Ala Gly Asn Gly Ser Val Asp Phe Ser Arg Asn
 645 650 655
 Ile Ala Ser Leu Gly Gly Ala Leu Gln Ala Ser Glu Gly Asn Cys
 660 665 670
 Glu Leu Val Asp Asn Gly Tyr Val Leu Phe Arg Asp Asn Arg Gly Arg
 675 680 685
 Val Tyr Gly Gly Ala Ile Ser Cys Leu Arg Gly Asp Val Val Ile Ser
 690 695 700
 Gly Asn Lys Gly Arg Val Glu Phe Lys Asp Asn Ile Ala Thr Arg Leu
 705 710 715 720
 Tyr Val Glu Glu Thr Val Glu Lys Val Glu Glu Val Glu Pro Ala Pro
 725 730 735
 Glu Gln Lys Asp Asn Asn Glu Leu Ser Phe Leu Gly Ser Val Glu Gln
 740 745 750
 Ser Phe Ile Thr Ala Ala Asn Gln Ala Leu Phe Ala Ser Glu Asp Gly
 755 760 765
 Asp Leu Ser Pro Glu Ser Ser Ile Ser Ser Glu Glu Leu Ala Lys Arg
 770 775 780
 Arg Glu Cys Ala Gly Gly Ala Ile Phe Ala Lys Arg Val Arg Ile Val
 785 790 795 800
 Asp Asn Gln Glu Ala Val Val Phe Ser Asn Asn Phe Ser Asp Ile Tyr
 805 810 815
 Gly Gly Ala Ile Phe Thr Gly Ser Leu Arg Glu Glu Asp Lys Leu Asp
 820 825 830
 Gly Gln Ile Pro Glu Val Leu Ile Ser Gly Asn Ala Gly Asp Val Val
 835 840 845
 Phe Ser Gly Asn Ser Ser Lys Arg Asp Glu His Leu Pro His Thr Gly
 850 855 860
 Gly Gly Ala Ile Cys Thr Gln Asn Leu Thr Ile Ser Gln Asn Thr Gly
 865 870 875 880
 Asn Val Leu Phe Tyr Asn Asn Val Ala Cys Ser Gly Gly Ala Val Arg

885	890	895
Ile Glu Asp His Gly Asn Val Leu Leu	Glu Ala Phe Gly Gly Asp Ile	
900	905	910
Val Phe Lys Gly Asn Ser Ser	Phe Arg Ala Gln Gly Ser Asp Ala Ile	
915	920	925
Tyr Phe Ala Gly Lys Glu Ser His	Ile Thr Ala Leu Asn Ala Thr Glu	
930	935	940
Gly His Ala Ile Val Phe His Asp Ala Leu Val	Phe Glu Asn Leu Lys	
945	950	960
Glu Arg Lys Ser Ala Glu Val Leu Leu	Ile Asn Ser Arg Glu Asn Pro	
965	970	975
Gly Tyr Thr Gly Ser Ile Arg Phe Leu Glu Ala Glu Ser Lys Val Pro		
980	985	990
Gln Cys Ile His Val Gln Gln Gly Ser Leu Glu Leu Leu Asn Gly Ala		
995	1000	1005
Thr Leu Cys Ser Tyr Gly Phe Lys Gln Asp Ala Gly Ala Lys Leu Val		
1010	1015	1020
Leu Ala Ala Gly Ser Lys Leu Lys Ile Leu Asp Ser Gly Thr Pro Val		
1025	1030	1040
Gln Gly His Ala Ile Ser Lys Pro Glu Ala Glu Ile Glu Ser Ser Ser		
1045	1050	1055
Glu Pro Glu Gly Ala His Ser Leu Trp Ile Ala Lys Asn Ala Gln Thr		
1060	1065	1070
Thr Val Pro Met Val Asp Ile His Thr Ile Ser Val Asp Leu Ala Ser		
1075	1080	1085
Phe Ser Ser Ser Gln Gln Glu Gly Thr Val Glu Ala Pro Gln Val Ile		
1090	1095	1100
Val Pro Gly Gly Ser Tyr Val Arg Ser Gly Glu Leu Asn Leu Glu Leu		
1105	1110	1120
Val Asn Thr Thr Gly Thr Gly Tyr Glu Asn His Ala Leu Leu Lys Asn		
1125	1130	1135
Glu Ala Lys Val Pro Leu Met Ser Phe Val Ala Ser Ser Asp Glu Ala		
1140	1145	1150
Ser Ala Glu Ile Ser Asn Leu Ser Val Ser Asp Leu Gln Ile His Val		
1155	1160	1165
Ala Thr Pro Glu Ile Glu Glu Asp Thr Tyr Gly His Met Gly Asp Trp		
1170	1175	1180
Ser Glu Ala Lys Ile Gln Asp Gly Thr Leu Val Ile Asn Trp Asn Pro		
1185	1190	1200
Thr Gly Tyr Arg Leu Asp Pro Gln Lys Ala Gly Ala Leu Val Phe Asn		
1205	1210	1215
Ala Leu Trp Glu Glu Gly Ala Val Leu Ser Ala Leu Lys Asn Ala Arg		
1220	1225	1230
Phe Ala His Asn Leu Thr Ala Gln Arg Met Glu Phe Asp Tyr Ser Thr		
1235	1240	1245
Asn Val Trp Gly Phe Ala Phe Gly Gly Phe Arg Thr Leu Ser Ala Glu		
1250	1255	1260
Asn Leu Val Ala Ile Asp Gly Tyr Lys Gly Ala Tyr Gly Gly Ala Ser		
1265	1270	1280
Ala Gly Val Asp Ile Gln Leu Met Glu Asp Phe Val Leu Gly Val Ser		
1285	1290	1295
Gly Ala Ala Phe Leu Gly Lys Met Asp Ser Gln Lys Phe Asp Ala Glu		
1300	1305	1310
Val Ser Arg Lys Gly Val Val Gly Ser Val Tyr Thr Gly Phe Leu Ala		
1315	1320	1325
Gly Ser Trp Phe Phe Lys Gly Gln Tyr Ser Leu Gly Glu Thr Gln Asn		
1330	1335	1340

Asp Met Lys Thr Arg Tyr Gly Val Leu Gly Glu Ser Ser Ala Ser Trp
 1345 1350 1355 1360
 Thr Ser Arg Gly Val Leu Ala Asp Ala Leu Val Glu Tyr Arg Ser Leu
 1365 1370 1375
 Val Gly Pro Val Arg Pro Thr Phe Tyr Ala Leu His Phe Asn Pro Tyr
 1380 1385 1390
 Val Glu Val Ser Tyr Ala Ser Met Lys Phe Pro Gly Phe Thr Glu Gln
 1395 1400 1405
 Gly Arg Glu Ala Arg Ser Phe Glu Asp Ala Ser Leu Thr Asn Ile Thr
 1410 1415 1420
 Ile Pro Leu Gly Met Lys Phe Glu Leu Ala Phe Ile Lys Gly Gln Phe
 1425 1430 1435 1440
 Ser Glu Val Asn Ser Leu Gly Ile Ser Tyr Ala Trp Glu Ala Tyr Arg
 1445 1450 1455
 Lys Val Glu Gly Gly Ala Val Gln Leu Leu Glu Ala Gly Phe Asp Trp
 1460 1465 1470
 Glu Gly Ala Pro Met Asp Leu Pro Arg Gln Glu Leu Arg Val Ala Leu
 1475 1480 1485
 Glu Asn Asn Thr Glu Trp Ser Ser Tyr Phe Ser Thr Val Leu Gly Leu
 1490 1495 1500
 Thr Ala Phe Cys Gly Gly Phe Thr Ser Thr Asp Ser Lys Leu Gly Tyr
 1505 1510 1515 1520
 Glu Ala Asn Thr Gly Leu Arg Leu Ile Phe
 1525 1530

<210> 179

<211> 1776

<212> .PRT

<213> Chlamydia

<400> 179

Ala Ile Met Lys Phe Met Ser Ala Thr Ala Val Phe Ala Ala Val Leu
 1 5 10 15
 Ser Ser Val Thr Glu Ala Ser Ser Ile Gln Asp Gln Ile Lys Asn Thr
 20 25 30
 Asp Cys Asn Val Ser Lys Val Gly Tyr Ser Thr Ser Gln Ala Phe Thr
 35 40 45
 Asp Met Met Leu Ala Asp Asn Thr Glu Tyr Arg Ala Ala Asp Ser Val
 50 55 60
 Ser Phe Tyr Asp Phe Ser Thr Ser Ser Gly Leu Pro Arg Lys His Leu
 65 70 75 80
 Ser Ser Ser Ser Glu Ala Ser Pro Thr Thr Glu Gly Val Ser Ser Ser
 85 90 95
 Ser Ser Gly Glu Asn Thr Glu Asn Ser Gln Asp Ser Ala Pro Ser Ser
 100 105 110
 Gly Glu Thr Asp Lys Lys Thr Glu Glu Leu Asp Asn Gly Gly Ile
 115 120 125
 Ile Tyr Ala Arg Glu Lys Leu Thr Ile Ser Glu Ser Gln Asp Ser Leu
 130 135 140
 Ser Asn Pro Ser Ile Glu Leu His Asp Asn Ser Phe Phe Gly Glu
 145 150 155 160
 Gly Glu Val Ile Phe Asp His Arg Val Ala Leu Lys Asn Gly Gly Ala
 165 170 175
 Ile Tyr Gly Glu Lys Glu Val Val Phe Glu Asn Ile Lys Ser Leu Leu
 180 185 190
 Val Glu Val Asn Ile Ser Val Glu Lys Gly Gly Ser Val Tyr Ala Lys
 195 200 205

Glu Arg Val Ser Leu Glu Asn Val Thr Glu Ala Thr Phe Ser Ser Asn
 210 215 220
 Gly Gly Glu Gln Gly Gly Gly Ile Tyr Ser Glu Gln Asp Met Leu
 225 230 235 240
 Ile Ser Asp Cys Asn Asn Val His Phe Gln Gly Asn Ala Ala Gly Ala
 245 250 255
 Thr Ala Val Lys Gln Cys Leu Asp Glu Glu Met Ile Val Leu Leu Thr
 260 265 270
 Glu Cys Val Asp Ser Leu Ser Glu Asp Thr Leu Asp Ser Thr Pro Glu
 275 280 285
 Thr Glu Gln Thr Lys Ser Asn Gly Asn Gln Asp Gly Ser Ser Glu Thr
 290 295 300
 Lys Asp Thr Gln Val Ser Glu Ser Pro Glu Ser Thr Pro Ser Pro Asp
 305 310 315 320
 Asp Val Leu Gly Lys Gly Gly Ile Tyr Thr Glu Lys Ser Leu Thr
 325 330 335
 Ile Thr Gly Ile Thr Gly Thr Ile Asp Phe Val Ser Asn Ile Ala Thr
 340 345 350
 Asp Ser Gly Ala Gly Val Phe Thr Lys Glu Asn Leu Ser Cys Thr Asn
 355 360 365
 Thr Asn Ser Leu Gln Phe Leu Lys Asn Ser Ala Gly Gln His Gly Gly
 370 375 380
 Gly Ala Tyr Val Thr Gln Thr Met Ser Val Thr Asn Thr Thr Ser Glu
 385 390 395 400
 Ser Ile Thr Thr Pro Pro Leu Val Gly Glu Val Ile Phe Ser Glu Asn
 405 410 415
 Thr Ala Lys Gly His Gly Gly Ile Cys Thr Asn Lys Leu Ser Leu
 420 425 430
 Ser Asn Leu Lys Thr Val Thr Leu Thr Lys Asn Ser Ala Lys Glu Ser
 435 440 445
 Gly Gly Ala Ile Phe Thr Asp Leu Ala Ser Ile Pro Thr Thr Asp Thr
 450 455 460
 Pro Glu Ser Ser Thr Pro Ser Ser Ser Pro Ala Ser Thr Pro Glu
 465 470 475 480
 Val Val Ala Ser Ala Lys Ile Asn Arg Phe Phe Ala Ser Thr Ala Glu
 485 490 495
 Pro Ala Ala Pro Ser Leu Thr Glu Ala Glu Ser Asp Gln Thr Asp Gln
 500 505 510
 Thr Glu Thr Ser Asp Thr Asn Ser Asp Ile Asp Val Ser Ile Glu Asn
 515 520 525
 Ile Leu Asn Val Ala Ile Asn Gln Asn Thr Ser Ala Lys Lys Gly Gly
 530 535 540
 Ala Ile Tyr Gly Lys Lys Ala Lys Leu Ser Arg Ile Asn Asn Leu Glu
 545 550 555 560
 Leu Ser Gly Asn Ser Ser Gln Asp Val Gly Gly Leu Cys Leu Thr
 565 570 575
 Glu Ser Val Glu Phe Asp Ala Ile Gly Ser Leu Leu Ser His Tyr Asn
 580 585 590
 Ser Ala Ala Lys Glu Gly Gly Val Ile His Ser Lys Thr Val Thr Leu
 595 600 605
 Ser Asn Leu Lys Ser Thr Phe Thr Phe Ala Asp Asn Thr Val Lys Ala
 610 615 620
 Ile Val Glu Ser Thr Pro Glu Ala Pro Glu Glu Ile Pro Pro Val Glu
 625 630 635 640
 Gly Glu Glu Ser Thr Ala Thr Glu Asn Pro Asn Ser Asn Thr Glu Gly
 645 650 655
 Ser Ser Ala Asn Thr Asn Leu Glu Gly Ser Gln Gly Asp Thr Ala Asp

660	665	670
Thr Gly Thr Gly Val Val Asn Asn Glu Ser Gln Asp	Thr Ser Asp Thr	
675 680	685	
Gly Asn Ala Glu Ser Gly Glu Gln Leu Gln Asp	Ser Thr Gln Ser Asn	
690 695	700	
Glu Glu Asn Thr Leu Pro Asn Ser Ser Ile Asp	Gln Ser Asn Glu Asn	
705 710	715	720
Thr Asp Glu Ser Ser Asp Ser His Thr Glu Glu Ile	Thr Asp Glu Ser	
725 730	735	
Val Ser Ser Ser Lys Ser Gly Ser Ser Thr Pro Gln	Asp Gly Gly	
740 745	750	
Ala Ala Ser Ser Gly Ala Pro Ser Gly Asp Gln Ser	Ile Ser Ala Asn	
755 760	765	
Ala Cys Leu Ala Lys Ser Tyr Ala Ala Ser Thr Asp	Ser Ser Pro Val	
770 775	780	
Ser Asn Ser Ser Gly Ser Asp Val Thr Ala Ser Ser	Asp Asn Pro Asp	
785 790	795	800
Ser Ser Ser Ser Gly Asp Ser Ala Gly Asp Ser	Glu Gly Pro Thr Glu	
805 810	815	
Pro Glu Ala Gly Ser Thr Thr Glu Thr Pro Thr Leu	Ile Gly Gly	
820 825	830	
Ala Ile Tyr Gly Glu Thr Val Lys Ile Glu Asn Phe	Ser Gly Gln Gly	
835 840	845	
Ile Phe Ser Gly Asn Lys Ala Ile Asp Asn Thr Thr	Glu Gly Ser Ser	
850 855	860	
Ser Lys Ser Asn Val Leu Gly Gly Ala Val Tyr Ala	Lys Thr Leu Phe	
865 870	875	880
Asn Leu Asp Ser Gly Ser Ser Arg Arg Thr Val Thr	Phe Ser Gly Asn	
885 890	895	
Thr Val Ser Ser Gln Ser Thr Thr Gly Gln Val Ala	Gly Gly Ala Ile	
900 905	910	
Tyr Ser Pro Thr Val Thr Ile Ala Thr Pro Val Val	Phe Ser Lys Asn	
915 920	925	
Ser Ala Thr Asn Asn Ala Asn Ala Thr Asp Thr	Gln Arg Lys Asp	
930 935	940	
Thr Phe Gly Gly Ala Ile Gly Ala Thr Ser Ala Val	Ser Leu Ser Gly	
945 950	955	960
Gly Ala His Phe Leu Glu Asn Val Ala Asp Leu	Gly Ser Ala Ile Gly	
965 970	975	
Leu Val Pro Asp Thr Gln Asn Thr Glu Thr Val Lys	Leu Glu Ser Gly	
980 985	990	
Ser Tyr Tyr Phe Glu Lys Asn Lys Ala Leu Lys Arg	Ala Thr Ile Tyr	
995 1000	1005	
Ala Pro Val Val Ser Ile Lys Ala Tyr Thr Ala Thr	Phe Asn Gln Asn	
1010 1015	1020	
Arg Ser Leu Glu Glu Gly Ser Ala Ile Tyr Phe Thr	Lys Glu Ala Ser	
1025 1030	1035	1040
Ile Glu Ser Leu Gly Ser Val Leu Phe Thr Gly Asn	Leu Val Thr Pro	
1045 1050	1055	
Thr Leu Ser Thr Thr Glu Gly Thr Pro Ala Thr Thr	Ser Gly Asp	
1060 1065	1070	
Val Thr Lys Tyr Gly Ala Ala Ile Phe Gly Gln Ile	Ala Ser Ser Asn	
1075 1080	1085	
Gly Ser Gln Thr Asp Asn Leu Pro Leu Lys Leu Ile	Ala Ser Gly Gly	
1090 1095	1100	
Asn Ile Cys Phe Arg Asn Asn Glu Tyr Arg Pro Thr	Ser Ser Asp Thr	
1105 1110	1115	1120

Gly Thr Ser Thr Phe Cys Ser Ile Ala Gly Asp Val Lys Leu Thr Met
 1125 1130 1135
 Gln Ala Ala Lys Gly Lys Thr Ile Ser Phe Phe Asp Ala Ile Arg Thr
 1140 1145 1150
 Ser Thr Lys Lys Thr Gly Thr Gln Ala Thr Ala Tyr Asp Thr Leu Asp
 1155 1160 1165
 Ile Asn Lys Ser Glu Asp Ser Glu Thr Val Asn Ser Ala Phe Thr Gly
 1170 1175 1180
 Thr Ile Leu Phe Ser Ser Glu Leu His Glu Asn Lys Ser Tyr Ile Pro
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 Gln Asn Val Val Leu His Ser Gly Ser Leu Val Leu Lys Pro Asn Thr
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 Glu Leu His Val Ile Ser Phe Glu Gln Lys Glu Gly Ser Ser Leu Val
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 Met Thr Pro Gly Ser Val Leu Ser Asn Gln Thr Val Ala Asp Gly Ala
 1235 1240 1245
 Leu Val Ile Asn Asn Met Thr Ile Asp Leu Ser Ser Val Glu Lys Asn
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 Asp Thr Thr Thr Ser Gly Ser Gly Thr Pro Ser Thr Asp Ser Glu
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 Ser Asn Gln Asn Ser Asp Asp Thr Lys Glu Gln Asn Asn Asn Asp Ala
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 Thr Pro Thr Thr Pro Thr Ala Thr Thr Thr Ser Asn Gln Val
 1345 1350 1355 1360
 Ile Leu Gly Gly Glu Ile Lys Leu Ile Asp Pro Asn Gly Thr Phe Phe
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 Pro Thr Asp Ser Ser Lys Met Gln Ala Gln Lys Ile Val Leu Thr Gly
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 Asp Ile Ala Pro Gln Lys Gly Tyr Thr Gly Thr Leu Thr Leu Asp Pro
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 Asp Gln Leu Gln Asn Gly Thr Ile Ser Ala Leu Trp Lys Phe Asp Ser
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 Tyr Arg Gln Trp Ala Tyr Val Pro Arg Asp Asn His Phe Tyr Ala Asn
 1445 1450 1455
 Ser Ile Leu Gly Ser Gln Met Ser Met Val Thr Val Lys Gln Gly Leu
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 Leu Asn Asp Lys Met Asn Leu Ala Arg Phe Asp Glu Val Ser Tyr Asn
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 Asn Leu Trp Ile Ser Gly Leu Gly Thr Met Leu Ser Gln Val Gly Thr
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 Pro Thr Ser Glu Glu Phe Thr Tyr Tyr Ser Arg Gly Ala Ser Val Ala
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 Leu Asp Ala Lys Pro Ala His Asp Val Ile Val Gly Ala Ala Phe Ser
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 Lys Met Ile Gly Lys Thr Lys Ser Leu Lys Arg Glu Asn Asn Tyr Thr
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 His Lys Gly Ser Glu Tyr Ser Tyr Gln Ala Ser Val Tyr Gly Gly Lys
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 Pro Phe His Phe Val Ile Asn Lys Lys Thr Glu Lys Ser Leu Pro Leu

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Gly	Val	Ile
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Tyr	Thr	Ile
His	Pro	Arg
		Glu
		Arg
	1605	1610
		Gln
		Gly
		Glu
		Trp
		Glu
		Asp
Leu	Gly	Trp
Gly	Asp	Leu
1620	Thr	Thr
Ala	Lys	Ala
		Leu
		Arg
		Val
	Ser	Ser
		Val
		Leu
		Arg
		Thr
		Pro
Tyr	Phe	Asp
	Cys	Asn
		Thr
		Tyr
		Arg
		Asn
		Leu
		Ile
		Pro
		Met
		Gly
		Leu
1665	1670	1675
Ala	Phe	Glu
Gly	Glu	Leu
1685	1690	1695
Phe	Ser	Val
Ala	Tyr	Met
	Pro	Ser
		Ile
		Tyr
		Arg
		Asn
		Ser
		Pro
		Thr
		Cys
1700	1705	1710
Lys	Tyr	Gln
	Val	Val
	Leu	Ser
		Ser
		Gly
		Glu
		Gly
		Glu
		Ile
		Ile
		Cys
1715	1720	1725
Val	Pro	Thr
Arg	Asn	Ser
		Ala
		Arg
		Gly
		Glu
		Tyr
		Ser
		Thr
		Gln
		Leu
		Tyr
1730	1735	1740
Pro	Gly	Pro
Leu	Trp	Thr
		Leu
		Tyr
		Gly
		Ser
		Tyr
		Thr
		Ile
		Glu
		Ala
1745	1750	1755
Ala	His	Thr
Thr	Leu	Ala
		His
		Met
		Met
		Asn
		Cys
		Gly
		Ala
		Arg
		Met
		Thr
		Phe
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<211> 1752

<212> PRT

<213> Chlamydia

<400> 180

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				20			25					30			
Val	Glu	Thr	Ser	Ser	Ser	Thr	Thr	Phe	Thr	Glu	Thr	Ile	Gly	Glu	Ala
				35			40					45			
Gly	Ala	Glu	Tyr	Ile	Val	Ser	Gly	Asn	Ala	Ser	Phe	Thr	Lys	Phe	Thr
				50			55					60			
Asn	Ile	Pro	Thr	Thr	Asp	Thr	Thr	Thr	Pro	Thr	Asn	Ser	Asn	Ser	Ser
	65				70			75					80		
Ser	Ser	Ser	Gly	Glu	Thr	Ala	Ser	Val	Ser	Glu	Asp	Ser	Asp	Ser	Thr
				85			90					95			
Thr	Thr	Thr	Pro	Asp	Pro	Lys	Gly	Gly	Ala	Phe	Tyr	Asn	Ala	His	
				100			105					110			
Ser	Gly	Val	Leu	Ser	Phe	Met	Thr	Arg	Ser	Gly	Thr	Glu	Gly	Ser	Leu
				115			120					125			
Thr	Leu	Ser	Glu	Ile	Lys	Met	Thr	Gly	Glu	Gly	Gly	Ala	Ile	Phe	Ser
				130			135					140			
Gln	Gly	Glu	Leu	Leu	Phe	Thr	Asp	Leu	Thr	Ser	Leu	Thr	Ile	Gln	Asn
	145				150				155				160		
Asn	Leu	Ser	Gln	Leu	Ser	Gly	Gly	Ala	Ile	Phe	Gly	Gly	Ser	Thr	Ile
					165			170				175			
Ser	Leu	Ser	Gly	Ile	Thr	Lys	Ala	Thr	Phe	Ser	Cys	Asn	Ser	Ala	Glu
				180			185					190			
Val	Pro	Ala	Pro	Val	Lys	Lys	Pro	Thr	Glu	Pro	Lys	Ala	Gln	Thr	Ala

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Ser Glu Thr Ser Gly Ser Ser Ser Ser Ser	Gly Asn Asp Ser Val Ser	
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Ser Pro Ser Ser Ser Arg Ala Glu Pro Ala Ala	Ala Asn Leu Gln Ser	
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His Phe Ile Cys Ala Thr Ala Thr Pro Ala Ala	Gln Thr Asp Thr Glu	
245	250	255
Thr Ser Thr Pro Ser His Lys Pro Gly Ser Gly	Gly Ala Ile Tyr Ala	
260	265	270
Lys Gly Asp Leu Thr Ile Ala Asp Ser Gln Glu	Val Leu Phe Ser Ile	
275	280	285
Asn Lys Ala Thr Lys Asp Gly Gly Ala Ile Phe	Ala Glu Lys Asp Val	
290	295	300
Ser Phe Glu Asn Ile Thr Ser Leu Lys Val Gln	Thr Asn Gly Ala Glu	
305	310	315
Glu Lys Gly Gly Ala Ile Tyr Ala Lys Gly Asp	Leu Ser Ile Gln Ser	
325	330	335
Ser Lys Gln Ser Leu Phe Asn Ser Asn Tyr Ser	Lys Gln Gly Gly	
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Ala Leu Tyr Val Glu Gly Gly Ile Asn Phe Gln	Asp Leu Glu Glu Ile	
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Arg Ile Lys Tyr Asn Lys Ala Gly Thr Phe Glu	Thr Lys Ile Thr	
370	375	380
Leu Pro Ser Leu Lys Ala Gln Ala Ser Ala Gly	Asn Ala Asp Ala Trp	
385	390	395
Ala Ser Ser Ser Pro Gln Ser Gly Ser Gly Ala	Thr Thr Val Ser Asp	
405	410	415
Ser Gly Asp Ser Ser Ser Gly Ser Asp Ser Asp	Thr Ser Glu Thr Val	
420	425	430
Pro Val Thr Ala Lys Gly Gly Leu Tyr Thr Asp	Lys Asn Leu Ser	
435	440	445
Ile Thr Asn Ile Thr Gly Ile Ile Glu Ile Ala	Asn Asn Lys Ala Thr	
450	455	460
Asp Val Gly Gly Ala Tyr Val Lys Gly Thr	Leu Thr Cys Glu Asn	
465	470	475
Ser His Arg Leu Gln Phe Leu Lys Asn Ser	Ser Asp Lys Gln Gly	
485	490	495
Gly Ile Tyr Gly Glu Asp Asn Ile Thr Leu	Ser Asn Leu Thr Gly	
500	505	510
Thr Leu Phe Gln Glu Asn Thr Ala Lys Glu	Glu Gly Gly Leu Phe	
515	520	525
Ile Lys Gly Thr Asp Lys Ala Leu Thr Met	Thr Gly Leu Asp Ser Phe	
530	535	540
Cys Leu Ile Asn Asn Thr Ser Glu Lys His	Gly Gly Ala Phe Val	
545	550	555
Thr Lys Glu Ile Ser Gln Thr Tyr Thr Ser Asp	Val Glu Thr Ile Pro	
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Gly Ile Thr Pro Val His Gly Glu Thr Val	Ile Thr Gly Asn Lys Ser	
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Thr Gly Gly Asn Gly Gly Val Cys Thr Lys Arg	Leu Ala Leu Ser	
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Asn Leu Gln Ser Ile Ser Ile Ser Gly Asn Ser	Ala Ala Glu Asn Gly	
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Gly Gly Ala His Thr Cys Pro Asp Ser Phe	Pro Thr Ala Asp Thr Ala	
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Glu Gln Pro Ala Ala Ala Ser Ala Ala Thr	Ser Thr Pro Lys Ser Ala	
645	650	655

Pro Val Ser Thr Ala Leu Ser Thr Pro Ser Ser Ser Thr Val Ser Ser
 660 665 670
 Leu Thr Leu Leu Ala Ala Ser Ser Gln Ala Ser Pro Ala Thr Ser Asn
 675 680 685
 Lys Glu Thr Gln Asp Pro Asn Ala Asp Thr Asp Leu Leu Ile Asp Tyr
 690 695 700
 Val Val Asp Thr Thr Ile Ser Lys Asn Thr Ala Lys Lys Gly Gly Gly
 705 710 715 720
 Ile Tyr Ala Lys Lys Ala Lys Met Ser Arg Ile Asp Gln Leu Asn Ile
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 Ser Glu Asn Ser Ala Thr Glu Ile Gly Gly Ile Cys Cys Lys Glu
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 Ser Leu Glu Leu Asp Ala Leu Val Ser Leu Ser Val Thr Glu Asn Leu
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 770 775 780
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 Ser Leu Gln Ala Ala Ala Ala Ala Pro Ser Ser Pro Ala Thr Pro
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 Thr Tyr Ser Gly Val Val Gly Gly Ala Ile Tyr Gly Glu Lys Val Thr
 835 840 845
 Phe Ser Gln Cys Ser Gly Thr Cys Gln Phe Ser Gly Asn Gln Ala Ile
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 Asp Asn Asn Pro Ser Gln Ser Ser Leu Asn Val Gln Gly Gly Ala Ile
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 Tyr Ala Lys Thr Ser Leu Ser Ile Gly Ser Ser Asp Ala Gly Thr Ser
 885 890 895
 Tyr Ile Phe Ser Gly Asn Ser Val Ser Thr Gly Lys Ser Gln Thr Thr
 900 905 910
 Gly Gln Ile Ala Gly Gly Ala Ile Tyr Ser Pro Thr Val Thr Leu Asn
 915 920 925
 Cys Pro Ala Thr Phe Ser Asn Asn Thr Ala Ser Ile Ala Thr Pro Lys
 930 935 940
 Thr Ser Ser Glu Asp Gly Ser Ser Gly Asn Ser Ile Lys Asp Thr Ile
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 Gly Gly Ala Ile Ala Gly Thr Ala Ile Thr Leu Ser Gly Val Ser Arg
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 Phe Ser Gly Asn Thr Ala Asp Leu Gly Ala Ala Ile Gly Thr Leu Ala
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 995 1000 1005
 Glu Lys Ile Thr Leu Glu Asn Gly Ser Phe Ile Phe Glu Arg Asn Gln
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 1045 1050 1055
 Ile Tyr Phe Thr Lys Asp Ala Thr Ile Glu Ser Leu Gly Ser Val Leu
 1060 1065 1070
 Phe Thr Gly Asn Asn Val Thr Ala Thr Gln Ala Ser Ser Ala Thr Ser
 1075 1080 1085
 Gly Gln Asn Thr Asn Thr Ala Asn Tyr Gly Ala Ala Ile Phe Gly Asp
 1090 1095 1100
 Pro Gly Thr Thr Gln Ser Ser Gln Thr Asp Ala Ile Leu Thr Leu Leu

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Ala Ser Ser Gly Asn Ile Thr Phe Ser Asn Asn Ser Leu Gln Asn Asn			
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Gln Gly Asp Thr Pro Ala Ser Lys Phe Cys Ser Ile Ala Gly Tyr Val			
1140	1145	1150	
Lys Leu Ser Leu Gln Ala Ala Lys Gly Lys Thr Ile Ser Phe Phe Asp			
1155	1160	1165	
Cys Val His Thr Ser Thr Lys Lys Thr Gly Ser Thr Gln Asn Val Tyr			
1170	1175	1180	
Glu Thr Leu Asp Ile Asn Lys Glu Glu Asn Ser Asn Pro Tyr Thr Gly			
1185	1190	1195	1200
Thr Ile Val Phe Ser Ser Glu Leu His Glu Asn Lys Ser Tyr Ile Pro			
1205	1210	1215	
Gln Asn Ala Ile Leu His Asn Gly Thr Leu Val Leu Lys Glu Lys Thr			
1220	1225	1230	
Glu Leu His Val Val Ser Phe Glu Gln Lys Glu Gly Ser Lys Leu Ile			
1235	1240	1245	
Met Glu Pro Gly Ala Val Leu Ser Asn Gln Asn Ile Ala Asn Gly Ala			
1250	1255	1260	
Leu Ala Ile Asn Gly Leu Thr Ile Asp Leu Ser Ser Met Gly Thr Pro			
1265	1270	1275	1280
Gln Ala Gly Glu Ile Phe Ser Pro Pro Glu Leu Arg Ile Val Ala Thr			
1285	1290	1295	
Thr Ser Ser Ala Ser Gly Gly Ser Gly Val Ser Ser Ser Ile Pro Thr			
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Asn Pro Lys Arg Ile Ser Ala Ala Val Pro Ser Gly Ser Ala Ala Thr			
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Thr Pro Thr Met Ser Glu Asn Lys Val Phe Leu Thr Gly Asp Leu Thr			
1330	1335	1340	
Leu Ile Asp Pro Asn Gly Asn Phe Tyr Gln Asn Pro Met Leu Gly Ser			
1345	1350	1355	1360
Asp Leu Asp Val Pro Leu Ile Lys Leu Pro Thr Asn Thr Ser Asp Val			
1365	1370	1375	
Gln Val Tyr Asp Leu Thr Leu Ser Gly Asp Leu Phe Pro Gln Lys Gly			
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Tyr Met Gly Thr Trp Thr Leu Asp Ser Asn Pro Gln Thr Gly Lys Leu			
1395	1400	1405	
Gln Ala Arg Trp Thr Phe Asp Thr Tyr Arg Arg Trp Val Tyr Ile Pro			
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Arg Asp Asn His Phe Tyr Ala Asn Ser Ile Leu Gly Ser Gln Asn Ser			
1425	1430	1435	1440
Met Ile Val Val Lys Gln Gly Leu Ile Asn Asn Met Leu Asn Asn Ala			
1445	1450	1455	
Arg Phe Asp Asp Ile Ala Tyr Asn Asn Phe Trp Val Ser Gly Val Gly			
1460	1465	1470	
Thr Phe Leu Ala Gln Gln Gly Thr Pro Leu Ser Glu Glu Phe Ser Tyr			
1475	1480	1485	
Tyr Ser Arg Gly Thr Ser Val Ala Ile Asp Ala Lys Pro Arg Gln Asp			
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Phe Ile Leu Gly Ala Ala Phe Ser Lys Ile Val Gly Lys Thr Lys Ala			
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Ile Lys Lys Met His Asn Tyr Phe His Lys Gly Ser Glu Tyr Ser Tyr			
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Gln Ala Ser Val Tyr Gly Gly Lys Phe Leu Tyr Phe Leu Leu Asn Lys			
1540	1545	1550	
Gln His Gly Trp Ala Leu Pro Phe Leu Ile Gln Gly Val Val Ser Tyr			
1555	1560	1565	

Gly His Ile Lys His Asp Thr Thr Leu Tyr Pro Ser Ile His Glu
 1570 1575 1580
 Arg Asn Lys Gly Asp Trp Glu Asp Leu Gly Trp Leu Ala Asp Leu Arg
 1585_ 1590 1595 1600
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 Thr Val Tyr Gly Glu Leu Glu Tyr Ser Ser Ile Arg Gln Lys Gln Phe
 1620 1625 1630
 Thr Glu Ile Asp Tyr Asp Pro Arg His Phe Asp Asp Cys Ala Tyr Arg
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 1650 1655 1660
 Cys Asn Ile Leu Met Tyr Asn Lys Leu Ala Leu Ala Tyr Met Pro Ser
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<211> 2601

<212> DNA

<213> Chlamydia

<400> 181

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<211> 3021

<212> DNA

<213> Chlamydia

<400> 182

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<211> 2934

<212> DNA

<213> Chlamydia

<400> 183

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<211> 2547

<212> DNA

<213> Chlamydia

<400> 184

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<211> 2337

<212> DNA

<213> Chlamydia

<400> 185

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<211> 2847
<212> DNA
<213> Chlamydia

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<211> 2466

<212> DNA

<213> Chlamydia

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gaaaatgtta	ccgaagcaac	cttctccccc	aatgtgggg	aacaagggtgg	ttgttggaaatc	660
tattcagaac	aagatatgtt	aatcagtgtat	tgcaacaatg	tacatttcca	agggaatgct	720
gcaggagcaa	cagcagtaaa	acaatgtctg	gatgaagaaa	tgatcgtatt	gctcacagaa	780
tgcgttgata	gcttatccga	agatacactg	gatagcactc	cagaaaacgga	acagactaaag	840
tcaaatggaa	atcaagatgg	ttcgtctgaa	acaaaagata	cacaagtatc	agaatcacca	900
gaatcaactc	ctagccccga	cgatgtttt	ggtaaagggtt	gtgttatcta	tacagaaaaaa	960
tctttgacca	tcactggaat	tacagggact	atagattttt	tcagtaacat	agctaccgat	1020
tctggagcag	gtgtattcac	taaagaaaaac	ttgtcttgca	ccaacacgaa	tagcctacag	1080
tttttggaaa	actcggcagg	tcaacatgga	ggaggagct	acgttactca	aaccatgtct	1140
gttactaata	caactagtga	aagtataact	actccccctc	tcgttaggaga	agtgattttc	1200
tctgaaaata	cagctaaagg	gcacgggtgt	ggtatctgca	ctaacaact	ttctttatct	1260
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acagatctag	cgtctatacc	aacaacagat	acccagagt	cttctacccc	ctttccctcc	1380
tcgcctgcaa	gcactcccga	agttagttgt	tctgctaaaa	taatcgatt	ctttgcctct	1440
acggcagaac	cggcagcccc	ttctctaaca	gaggctgagt	ctgatcaaac	ggatcaaaca	1500
gaaacttctg	atactaatacg	cgatatacgac	gtgtcgattt	agaacatttt	gaatgtcgct	1560
atcaatcaaa	acacttctgc	aaaaaaaagga	ggggctattt	acggggaaaaa	agctaaactt	1620
tcccgttatta	acaatcttga	actttcaggg	aattcatccc	aggatgttagg	aggaggctc	1680
tgtttaactg	aaagcgtaga	atttgatgca	attggatcgc	tcttatccca	ctataactct	1740
gctgctaaag	aagggtgggt	tattcattct	aaaacggta	ctctatctaa	cctcaagtct	1800
accttcactt	ttgcagataa	cactgttaaa	gcaatagtag	aaagcactcc	tgaagctcca	1860
gaagagattc	ctccagtaga	aggagaagag	tctacagcaa	cagaaaatcc	gaattctaat	1920
acagaaggaa	gttcggctaa	cactaacctt	gaaggatctc	aaggggatac	tgctgataca	1980
gggactgggt	ttgtttaacaa	tgagtctcaa	gacacatcg	atactggaaa	cgctgaatct	2040
ggagaacaaac	tacaagattc	tacacaatct	aatgaagaaa	ataccctcc	caatagtagt	2100
attgatcaat	ctaacaaaaa	cacagacgaa	tcatctgata	gccacactga	gaaataact	2160
gacgagagtg	tctcatcgtc	ctctaaaagt	ggatcatcta	ctcctcaaga	tggaggagca	2220
gcttcttcag	gggctccctc	aggagatcaa	tctatctctg	caaacgcttg	tttagctaaa	2280
agctatgctg	cgagtagtga	tagctccct	gtatctaatt	cttcagggttc	agacgttact	2340
gcatttctg	ataatccaga	ctttcttca	tctggagata	gchgctggaga	ctctgaagga	2400
ccgactgagc	cagaagctgg	ttctacaaca	gaaactccctt	ctttaatagg	aggagggtct	2460
atctga						2466

<210> 188

<211> 1578

<212> DNA

<213> Chlamydia

<400> 188

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cagggattcg	ccattccgat	cgggcaggcg	atggcgatcg	cggggccagat	caagcttccc	120
accgttcata	tcgggcctac	cgccttcctc	ggcttgggtt	tttgtcgacaa	caacggcaac	180

ggcgacgag	tccaacgcgt	ggtcgggagc	gctccggcgg	caagtctcg	catctccacc	240
ggcagacgt	tcaccgcgt	cgacggcgc	ccgatcaact	cgcccaccgc	gatggcggac	300
gcttaacg	ggcatcatcc	cggtaacgtc	atctcggtga	cctggcaa	caagtccggc	360
ggcacgcgt	cagggAACGT	gacattggcc	gagggacccc	cgccccaa	cccqctagta-	420
ccttagaggtt	caccgcgtcc	tgtggggaa	ccagctgaac	caagtttatt	aatcgatggc	480
actatgtggg	aagggtgttc	aggagatcct	tgcgatcctt	gctacttg	gtgtgacgcc	540
attagcatcc	gcccaggata	ctacggagat	tatgtttcg	atcggtatt	aaaagtttat	600
gtgaataaaaa	cttttagcgg	catggctgca	actcctacgc	aggctatagg	taacgcaga	660
aatactaatac	agccagaagc	aaatggcaga	ccgaacatcg	cttacggaa	gcataatgca	720
gatgcagagt	ggtttcaaa	tgccggcttc	ctagccttaa	acatttggg	tcgcttcgac	780
attttctgca	ccttaggggc	atccaatgg	tacttcaag	caagttccggc	tgcatcaac	840
ttgggtgggt	taatagggtt	ttcagctgca	agctcaatct	ctaccgatct	tccaatgca	900
cttcctaacg	taggcattac	ccaaagggttt	gtggaaat	tttatacagac	atcattttct	960
tggagcgtag	gtgcacgtgg	agctttatgg	aatgtgggt	gtgcaacttt	aggagctgag	1020
ttccaataacg	ctcaatctaa	tcctaaagatt	gagatgctca	acgtcacttc	aagcccagca	1080
caatttgtga	ttcacaaacc	aagaggctat	aaaggagct	gctcgaattt	tcctttacct	1140
ataacggctg	gaacaacaga	agctacagac	accaaatacg	ctacaattaa	ataccatgaa	1200
tggcaagtag	gcctcgccct	gtcttacaga	ttgaatatgc	ttgttccata	tattggcgta	1260
aactggtcaa	gagcaacttt	tgatgtgtat	actatccgca	ttgctcaacc	taaattaaaa	1320
tcggagattc	ttaacattac	tacatggAAC	ccaaaggctta	taggatcaac	cactgctttg	1380
cccaataata	gtggtaagga	tgttctatct	gatgtcttc	aaattgtttc	gattcagatc	1440
aacaaaatga	agtcttagaaa	agcttgggt	gtagctgtt	gtgcaacgtt	aatcgacgct	1500
gacaaatggt	caatcactgg	tgaagcacgc	ttaatcaatg	aaagagctgc	tcacatgaat	1560
gcacaattcc	gcttctaa					1578

<210> 189

<211> 866

<212> PRT

<213> Chlamydia

<220>

<221> VARIANT

<222> (1)...(866)

<223> Xaa = Any Amino Acid

<400> 189

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180	185	190	
Ala Ile Cys Cys Ser Asn Leu Ile Cys Ser Gly Asn Val Asn Pro Leu			
195	200	205	
Phe Phe Thr Gly Asn Ser Ala Thr Asn Gly Gly Xaa Ile Cys Cys Ile			
210	215	220	
Ser Asp Leu Asn Thr Ser Glu Lys Gly Ser Leu Ser Leu Ala Cys Asn			
225	230	235	240
Gln Xaa Thr Leu Phe Ala Ser Asn Ser Ala Lys Glu Lys Gly Gly Ala			
245	250	255	
Ile Tyr Ala Lys His Met Val Leu Arg Tyr Asn Gly Pro Val Ser Phe			
260	265	270	
Ile Asn Asn Ser Ala Lys Ile Gly Gly Ala Ile Ala Ile Gln Ser Gly			
275	280	285	
Gly Ser Leu Ser Ile Leu Ala Gly Glu Gly Ser Val Leu Phe Gln Asn			
290	295	300	
Asn Ser Gln Arg Thr Ser Asp Gln Gly Leu Val Arg Asn Ala Ile Tyr			
305	310	315	320
Leu Glu Lys Asp Ala Ile Leu Ser Ser Leu Glu Ala Arg Asn Gly Asp			
325	330	335	
Ile Leu Phe Phe Asp Pro Ile Val Gln Glu Ser Ser Ser Lys Glu Ser			
340	345	350	
Pro Leu Pro Ser Ser Leu Gln Ala Ser Val Thr Ser Pro Thr Pro Ala			
355	360	365	
Thr Ala Ser Pro Leu Val Ile Gln Thr Ser Ala Asn Arg Ser Val Ile			
370	375	380	
Phe Ser Ser Glu Arg Leu Ser Glu Glu Glu Lys Thr Pro Asp Asn Leu			
385	390	395	400
Thr Ser Gln Leu Gln Gln Pro Ile Glu Leu Lys Ser Gly Arg Leu Val			
405	410	415	
Leu Lys Asp Arg Ala Val Leu Ser Xaa Pro Ser Leu Ser Gln Asp Pro			
420	425	430	
Gln Ala Leu Leu Ile Met Glu Ala Gly Thr Ser Leu Lys Thr Ser Xaa			
435	440	445	
Asp Leu Lys Leu Xaa Thr Xaa Ser Ile Pro Leu His Ser Leu Asp Thr			
450	455	460	
Glu Lys Ser Val Thr Ile His Ala Pro Asn Leu Ser Ile Gln Lys Ile			
465	470	475	480
Phe Leu Ser Asn Ser Gly Asp Glu Asn Phe Tyr Glu Asn Val Glu Leu			
485	490	495	
Leu Ser Lys Glu Gln Asn Asn Ile Pro Leu Leu Thr Leu Pro Lys Glu			
500	505	510	
Gln Ser His Leu His Leu Pro Asp Gly Asn Leu Ser Ser His Phe Gly			
515	520	525	
Tyr Gln Gly Asp Trp Thr Phe Ser Trp Lys Asp Ser Asp Glu Gly His			
530	535	540	
Ser Leu Ile Ala Asn Trp Thr Pro Lys Asn Tyr Val Pro His Pro Glu			
545	550	555	560
Arg Gln Ser Thr Leu Val Ala Asn Thr Leu Trp Asn Thr Tyr Ser Asp			
565	570	575	
Met Gln Ala Val Gln Ser Met Ile Asn Thr Thr Ala His Gly Gly Ala			
580	585	590	
Tyr Leu Phe Gly Thr Trp Gly Ser Ala Val Ser Asn Leu Phe Tyr Val			
595	600	605	
His Asp Ser Ser Gly Lys Pro Ile Asp Asn Trp His His Arg Ser Leu			
610	615	620	

Gly Tyr Leu Phe Gly Ile Ser Thr His Ser Leu Asp Asp His Ser Phe
 625 630 635 640
 Cys Leu Ala Ala Gly Gln Leu Leu Gly Lys Ser Ser Asp Ser Phe Ile
 645 650 655
 Thr Ser Thr Glu Thr Thr Ser Tyr Ile Ala Thr Val Gln Ala Gln Leu
 660 665 670
 Ala Thr Ser Leu Met Lys Ile Ser Ala Gln Ala Cys Tyr Asn Glu Ser
 675 680 685
 Ile His Glu Leu Lys Thr Lys Tyr Arg Ser Phe Ser Lys Glu Gly Phe
 690 695 700
 Gly Ser Trp His Ser Val Ala Val Ser Gly Glu Val Cys Ala Ser Ile
 705 710 715 720
 Pro Ile Val Ser Asn Gly Ser Gly Leu Phe Ser Ser Phe Ser Ile Phe
 725 730 735
 Ser Lys Leu Gln Gly Phe Ser Gly Thr Gln Asp Gly Phe Glu Glu Ser
 740 745 750
 Ser Gly Glu Ile Arg Ser Phe Ser Ala Ser Ser Phe Arg Asn Ile Ser
 755 760 765
 Leu Pro Ile Gly Ile Thr Phe Glu Lys Lys Ser Gln Lys Thr Arg Thr
 770 775 780
 Tyr Tyr Tyr Phe Leu Gly Ala Tyr Ile Gln Asp Leu Lys Arg Asp Val
 785 790 795 800
 Glu Ser Gly Pro Val Val Leu Leu Lys Asn Ala Val Ser Trp Asp Ala
 805 810 815
 Pro Met Ala Asn Leu Asp Ser Arg Ala Tyr Met Phe Arg Leu Thr Asn
 820 825 830
 Gln Arg Ala Leu His Arg Leu Gln Thr Leu Leu Asn Val Ser Cys Val
 835 840 845
 Leu Arg Gly Gln Ser His Ser Tyr Ser Leu Asp Leu Gly Thr Thr Tyr
 850 855 860
 Arg Phe
 865

<210> 190
 <211> 1006
 <212> PRT
 <213> Chlamydia

<400> 190

Met Ala Ser Met Thr Gly Gly Gln Gln	Met Gly Arg Asp Ser Ser	Leu
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Val Pro His His His His His Met	Ile Pro Gln Gly Ile Tyr Asp	
20 25 30		
Gly Glu Thr Leu Thr Val Ser Phe Pro Tyr Thr Val	Ile Gly Asp Pro	
35 40 45		
Ser Gly Thr Thr Val Phe Ser Ala Gly Glu Leu Thr	Leu Lys Asn Leu	
50 55 60		
Asp Asn Ser Ile Ala Ala Leu Pro Leu Ser Cys	Phe Gly Asn Leu	Leu
65 70 75		80
Gly Ser Phe Thr Val Leu Gly Arg Gly His Ser	Leu Thr Phe Glu Asn	
85 90 95		
Ile Arg Thr Ser Thr Asn Gly Ala Ala Leu Ser Asn	Ser Ala Ala Asp	
100 105 110		
Gly Leu Phe Thr Ile Glu Gly Phe Lys Glu Leu Ser	Phe Ser Asn Cys	
115 120 125		
Asn Ser Leu Leu Ala Val Leu Pro Ala Ala Thr	Thr Asn Lys Gly Ser	
130 135 140		

Gln Thr Pro Thr Thr Ser Thr Pro Ser Asn Gly Thr Ile Tyr Ser
 145 150 155 160
 Lys Thr Asp Leu Leu Leu Asn Asn Glu Lys Phe Ser Phe Tyr Ser
 165 170 175
 Asn Leu Val Ser Gly Asp Gly Gly Ala Ile Asp Ala Lys Ser Leu Thr
 180 185 190
 Val Gln Gly Ile Ser Lys Leu Cys Val Phe Gln Glu Asn Thr Ala Gln
 195 200 205
 Ala Asp Gly Gly Ala Cys Gln Val Val Thr Ser Phe Ser Ala Met Ala
 210 215 220
 Asn Glu Ala Pro Ile Ala Phe Val Ala Asn Val Ala Gly Val Arg Gly
 225 230 235 240
 Gly Gly Ile Ala Ala Val Gln Asp Gly Gln Gln Gly Val Ser Ser Ser
 245 250 255
 Thr Ser Thr Glu Asp Pro Val Val Ser Phe Ser Arg Asn Thr Ala Val
 260 265 270
 Glu Phe Asp Gly Asn Val Ala Arg Val Gly Gly Ile Tyr Ser Tyr
 275 280 285
 Gly Asn Val Ala Phe Leu Asn Asn Gly Lys Thr Leu Phe Leu Asn Asn
 290 295 300
 Val Ala Ser Pro Val Tyr Ile Ala Ala Lys Gln Pro Thr Ser Gly Gln
 305 310 315 320
 Ala Ser Asn Thr Ser Asn Asn Tyr Gly Asp Gly Gly Ala Ile Phe Cys
 325 330 335
 Lys Asn Gly Ala Gln Ala Gly Ser Asn Asn Ser Gly Ser Val Ser Phe
 340 345 350
 Asp Gly Glu Gly Val Val Phe Phe Ser Ser Asn Val Ala Ala Gly Lys
 355 360 365
 Gly Gly Ala Ile Tyr Ala Lys Lys Leu Ser Val Ala Asn Cys Gly Pro
 370 375 380
 Val Gln Phe Leu Arg Asn Ile Ala Asn Asp Gly Gly Ala Ile Tyr Leu
 385 390 395 400
 Gly Glu Ser Gly Glu Leu Ser Leu Ser Ala Asp Tyr Gly Asp Ile Ile
 405 410 415
 Phe Asp Gly Asn Leu Lys Arg Thr Ala Lys Glu Asn Ala Ala Asp Val
 420 425 430
 Asn Gly Val Thr Val Ser Ser Gln Ala Ile Ser Met Gly Ser Gly Gly
 435 440 445
 Lys Ile Thr Thr Leu Arg Ala Lys Ala Gly His Gln Ile Leu Phe Asn
 450 455 460
 Asp Pro Ile Glu Met Ala Asn Gly Asn Asn Gln Pro Ala Gln Ser Ser
 465 470 475 480
 Lys Leu Leu Lys Ile Asn Asp Gly Glu Gly Tyr Thr Gly Asp Ile Val
 485 490 495
 Phe Ala Asn Gly Ser Ser Thr Leu Tyr Gln Asn Val Thr Ile Glu Gln
 500 505 510
 Gly Arg Ile Val Leu Arg Glu Lys Ala Lys Leu Ser Val Asn Ser Leu
 515 520 525
 Ser Gln Thr Gly Gly Ser Leu Tyr Met Glu Ala Gly Ser Thr Leu Asp
 530 535 540
 Phe Val Thr Pro Gln Pro Pro Gln Gln Pro Pro Ala Ala Asn Gln Leu
 545 550 555 560
 Ile Thr Leu Ser Asn Leu His Leu Ser Leu Ser Ser Leu Leu Ala Asn
 565 570 575
 Asn Ala Val Thr Asn Pro Pro Thr Asn Pro Pro Ala Gln Asp Ser His
 580 585 590
 Pro Ala Val Ile Gly Ser Thr Thr Ala Gly Ser Val Thr Ile Ser Gly

595	600	605
Pro Ile Phe Phe Glu Asp Leu Asp Asp Thr Ala Tyr Asp Arg Tyr Asp		
610	615	620
Trp Leu Gly Ser Asn Gln Lys Ile Asn Val Leu Lys Leu Gln Leu Gly		
625	630	635
640		
Thr Lys Pro Pro Ala Asn Ala Pro Ser Asp Leu Thr Leu Gly Asn Glu		
645	650	655
Met Pro Lys Tyr Gly Tyr Gln Gly Ser Trp Lys Leu Ala Trp Asp Pro		
660	665	670
Asn Thr Ala Asn Asn Gly Pro Tyr Thr Leu Lys Ala Thr Trp Thr Lys		
675	680	685
Thr Gly Tyr Asn Pro Gly Pro Glu Arg Val Ala Ser Leu Val Pro Asn		
690	695	700
Ser Leu Trp Gly Ser Ile Leu Asp Ile Arg Ser Ala His Ser Ala Ile		
705	710	715
720		
Gln Ala Ser Val Asp Gly Arg Ser Tyr Cys Arg Gly Leu Trp Val Ser		
725	730	735
Gly Val Ser Asn Phe Phe Tyr His Asp Arg Asp Ala Leu Gly Gln Gly		
740	745	750
Tyr Arg Tyr Ile Ser Gly Gly Tyr Ser Leu Gly Ala Asn Ser Tyr Phe		
755	760	765
Gly Ser Ser Met Phe Gly Leu Ala Phe Thr Glu Val Phe Gly Arg Ser		
770	775	780
Lys Asp Tyr Val Val Cys Arg Ser Asn His His Ala Cys Ile Gly Ser		
785	790	795
800		
Val Tyr Leu Ser Thr Gln Gln Ala Leu Cys Gly Ser Tyr Leu Phe Gly		
805	810	815
Asp Ala Phe Ile Arg Ala Ser Tyr Gly Phe Gly Asn Gln His Met Lys		
820	825	830
Thr Ser Tyr Thr Phe Ala Glu Glu Ser Asp Val Arg Trp Asp Asn Asn		
835	840	845
Cys Leu Ala Gly Glu Ile Gly Ala Gly Leu Pro Ile Val Ile Thr Pro		
850	855	860
Ser Lys Leu Tyr Leu Asn Glu Leu Arg Pro Phe Val Gln Ala Glu Phe		
865	870	875
880		
Ser Tyr Ala Asp His Glu Ser Phe Thr Glu Glu Gly Asp Gln Ala Arg		
885	890	895
Ala Phe Lys Ser Gly His Leu Leu Asn Leu Ser Val Pro Val Gly Val		
900	905	910
Lys Phe Asp Arg Cys Ser Ser Thr His Pro Asn Lys Tyr Ser Phe Met		
915	920	925
Ala Ala Tyr Ile Cys Asp Ala Tyr Arg Thr Ile Ser Gly Thr Glu Thr		
930	935	940
Thr Leu Leu Ser His Gln Glu Thr Trp Thr Thr Asp Ala Phe His Leu		
945	950	955
960		
Ala Arg His Gly Val Val Val Arg Gly Ser Met Tyr Ala Ser Leu Thr		
965	970	975
Ser Asn Ile Glu Val Tyr Gly His Gly Arg Tyr Glu Tyr Arg Asp Ala		
980	985	990
Ser Arg Gly Tyr Gly Leu Ser Ala Gly Ser Lys Val Arg Phe		
995	1000	1005

<210> 191

<211> 977

<212> PRT

<213> Chlamydia

<400> 191

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Val	Pro	Ser	Ser	Asp	Pro	His	His	His	His	His	Gly	Leu	Ala	Arg	
				20				25				30			
Glu	Val	Pro	Ser	Arg	Ile	Phe	Leu	Met	Pro	Asn	Ser	Val	Pro	Asp	Pro
				35				40				45			
Thr	Lys	Glu	Ser	Leu	Ser	Asn	Lys	Ile	Ser	Leu	Thr	Gly	Asp	Thr	His
				50			55				60				
Asn	Leu	Thr	Asn	Cys	Tyr	Leu	Asp	Asn	Leu	Arg	Tyr	Ile	Leu	Ala	Ile
	65				70				75				80		
Leu	Gln	Lys	Thr	Pro	Asn	Glu	Gly	Ala	Ala	Val	Thr	Ile	Thr	Asp	Tyr
				85				90				95			
Leu	Ser	Phe	Phe	Asp	Thr	Gln	Lys	Glu	Gly	Ile	Tyr	Phe	Ala	Lys	Asn
				100				105				110			
Leu	Thr	Pro	Glu	Ser	Gly	Gly	Ala	Ile	Gly	Tyr	Ala	Ser	Pro	Asn	Ser
				115				120				125			
Pro	Thr	Val	Glu	Ile	Arg	Asp	Thr	Ile	Gly	Pro	Val	Ile	Phe	Glu	Asn
				130			135				140				
Asn	Thr	Cys	Cys	Arg	Leu	Phe	Thr	Trp	Arg	Asn	Pro	Tyr	Ala	Ala	Asp
	145					150			155				160		
Lys	Ile	Arg	Glu	Gly	Gly	Ala	Ile	His	Ala	Gln	Asn	Leu	Tyr	Ile	Asn
					165				170				175		
His	Asn	His	Asp	Val	Val	Gly	Phe	Met	Lys	Asn	Phe	Ser	Tyr	Val	Gln
				180				185				190			
Gly	Gly	Ala	Ile	Ser	Thr	Ala	Asn	Thr	Phe	Val	Val	Ser	Glu	Asn	Gln
				195				200				205			
Ser	Cys	Phe	Leu	Phe	Met	Asp	Asn	Ile	Cys	Ile	Gln	Thr	Asn	Thr	Ala
				210				215				220			
Gly	Lys	Gly	Gly	Ala	Ile	Tyr	Ala	Gly	Thr	Ser	Asn	Ser	Phe	Glu	Ser
	225				230				235				240		
Asn	Asn	Cys	Asp	Leu	Phe	Phe	Ile	Asn	Asn	Ala	Cys	Cys	Ala	Gly	Gly
					245				250				255		
Ala	Ile	Phe	Ser	Pro	Ile	Cys	Ser	Leu	Thr	Gly	Asn	Arg	Gly	Asn	Ile
				260				265				270			
Val	Phe	Tyr	Asn	Asn	Arg	Cys	Phe	Lys	Asn	Val	Glu	Thr	Ala	Ser	Ser
				275			280				285				
Glu	Ala	Ser	Asp	Gly	Gly	Ala	Ile	Lys	Val	Thr	Thr	Arg	Leu	Asp	Val
				290				295				300			
Thr	Gly	Asn	Arg	Gly	Arg	Ile	Phe	Phe	Ser	Asp	Asn	Ile	Thr	Lys	Asn
	305				310				315				320		
Tyr	Gly	Gly	Ala	Ile	Tyr	Ala	Pro	Val	Val	Thr	Leu	Val	Asp	Asn	Gly
					325				330				335		
Pro	Thr	Tyr	Phe	Ile	Asn	Asn	Ile	Ala	Asn	Asn	Lys	Gly	Gly	Ala	Ile
				340				345				350			
Tyr	Ile	Asp	Gly	Thr	Ser	Asn	Ser	Lys	Ile	Ser	Ala	Asp	Arg	His	Ala
				355				360				365			
Ile	Ile	Phe	Asn	Glu	Asn	Ile	Val	Thr	Asn	Val	Thr	Asn	Ala	Asn	Gly
				370			375				380				
Thr	Ser	Thr	Ser	Ala	Asn	Pro	Pro	Arg	Arg	Asn	Ala	Ile	Thr	Val	Ala
	385				390				395				400		
Ser	Ser	Ser	Gly	Glu	Ile	Leu	Leu	Gly	Ala	Gly	Ser	Ser	Gln	Asn	Leu
					405				410				415		
Ile	Phe	Tyr	Asp	Pro	Ile	Glu	Val	Ser	Asn	Ala	Gly	Val	Ser	Val	Ser
					420			425				430			
Phe	Asn	Lys	Glu	Ala	Asp	Gln	Thr	Gly	Ser	Val	Val	Phe	Ser	Gly	Ala
				435				440				445			

Thr Val Asn Ser Ala Asp Phe His Gln Arg Asn Leu Gln Thr Lys Thr
 450 455 460
 Pro Ala Pro Leu Thr Leu Ser Asn Gly Phe Leu Cys Ile Glu Asp His
 465 470 475 480
 Ala Gln Leu Thr Val Asn Arg Phe Thr Gln Thr Gly Gly Val Val Ser
 485 490 495
 Leu Gly Asn Gly Ala Val Leu Ser Cys Tyr Lys Asn Gly Thr Gly Asp
 500 505 510
 Ser Ala Ser Asn Ala Ser Ile Thr Leu Lys His Ile Gly Leu Asn Leu
 515 520 525
 Ser Ser Ile Leu Lys Ser Gly Ala Glu Ile Pro Leu Leu Trp Val Glu
 530 535 540
 Pro Thr Asn Asn Ser Asn Asn Tyr Thr Ala Asp Thr Ala Ala Thr Phe
 545 550 555 560
 Ser Leu Ser Asp Val Lys Leu Ser Leu Ile Asp Asp Tyr Gly Asn Ser
 565 570 575
 Pro Tyr Glu Ser Thr Asp Leu Thr His Ala Leu Ser Ser Gln Pro Met
 580 585 590
 Leu Ser Ile Ser Glu Ala Ser Asp Asn Gln Leu Gln Ser Glu Asn Ile
 595 600 605
 Asp Phe Ser Gly Leu Asn Val Pro His Tyr Gly Trp Gln Gly Leu Trp
 610 615 620
 Thr Trp Gly Trp Ala Lys Thr Gln Asp Pro Glu Pro Ala Ser Ser Ala
 625 630 635 640
 Thr Ile Thr Asp Pro Gln Lys Ala Asn Arg Phe His Arg Thr Leu Leu
 645 650 655
 Leu Thr Trp Leu Pro Ala Gly Tyr Val Pro Ser Pro Lys His Arg Ser
 660 665 670
 Pro Leu Ile Ala Asn Thr Leu Trp Gly Asn Met Leu Leu Ala Thr Glu
 675 680 685
 Ser Leu Lys Asn Ser Ala Glu Leu Thr Pro Ser Gly His Pro Phe Trp
 690 695 700
 Gly Ile Thr Gly Gly Leu Gly Met Met Val Tyr Gln Asp Pro Arg
 705 710 715 720
 Glu Asn His Pro Gly Phe His Met Arg Ser Ser Gly Tyr Ser Ala Gly
 725 730 735
 Met Ile Ala Gly Gln Thr His Thr Phe Ser Leu Lys Phe Ser Gln Thr
 740 745 750
 Tyr Thr Lys Leu Asn Glu Arg Tyr Ala Lys Asn Asn Val Ser Ser Lys
 755 760 765
 Asn Tyr Ser Cys Gln Gly Glu Met Leu Phe Ser Leu Gln Glu Gly Phe
 770 775 780
 Leu Leu Thr Lys Leu Val Gly Leu Tyr Ser Tyr Gly Asp His Asn Cys
 785 790 795 800
 His His Phe Tyr Thr Gln Gly Glu Asn Leu Thr Ser Gln Gly Thr Phe
 805 810 815
 Arg Ser Gln Thr Met Gly Gly Ala Val Phe Phe Asp Leu Pro Met Lys
 820 825 830
 Pro Phe Gly Ser Thr His Ile Leu Thr Ala Pro Phe Leu Gly Ala Leu
 835 840 845
 Gly Ile Tyr Ser Ser Leu Ser His Phe Thr Glu Val Gly Ala Tyr Pro
 850 855 860
 Arg Ser Phe Ser Thr Lys Thr Pro Leu Ile Asn Val Leu Val Pro Ile
 865 870 875 880
 Gly Val Lys Gly Ser Phe Met Asn Ala Thr His Arg Pro Gln Ala Trp
 885 890 895
 Thr Val Glu Leu Ala Tyr Gln Pro Val Leu Tyr Arg Gln Glu Pro Gly

900	905	910
Ile Ala Thr Gln Leu Leu Ala Ser Lys Gly Ile Trp Phe Gly Ser Gly		
915	920	925
Ser Pro Ser Ser Arg His Ala Met Ser Tyr Lys Ile Ser Gln Gln Thr		
930	935	940
Gln Pro Leu Ser Trp Leu Thr Leu His Phe Gln Tyr His Gly Phe Tyr		
945	950	955
Ser Ser Ser Thr Phe Cys Asn Tyr Leu Asn Gly Glu Ile Ala Leu Arg		
965	970	975

Phe

<210> 192

<211> 848

<212> PRT

<213> Chlamydia

<400> 192

Met Ala Ser His His His His Gly Ala Ile Ser Cys Leu Arg			
1	5	10	15
Gly Asp Val Val Ile Ser Gly Asn Lys Gly Arg Val Glu Phe Lys Asp			
20	25	30	
Asn Ile Ala Thr Arg Leu Tyr Val Glu Glu Thr Val Glu Lys Val Glu			
35	40	45	
Glu Val Glu Pro Ala Pro Glu Gln Lys Asp Asn Asn Glu Leu Ser Phe			
50	55	60	
Leu Gly Ser Val Glu Gln Ser Phe Ile Thr Ala Ala Asn Gln Ala Leu			
65	70	75	80
Phe Ala Ser Glu Asp Gly Asp Leu Ser Pro Glu Ser Ser Ile Ser Ser			
85	90	95	
Glu Glu Leu Ala Lys Arg Arg Glu Cys Ala Gly Gly Ala Ile Phe Ala			
100	105	110	
Lys Arg Val Arg Ile Val Asp Asn Gln Glu Ala Val Val Phe Ser Asn			
115	120	125	
Asn Phe Ser Asp Ile Tyr Gly Gly Ala Ile Phe Thr Gly Ser Leu Arg			
130	135	140	
Glu Glu Asp Lys Leu Asp Gly Gln Ile Pro Glu Val Leu Ile Ser Gly			
145	150	155	160
Asn Ala Gly Asp Val Val Phe Ser Gly Asn Ser Ser Lys Arg Asp Glu			
165	170	175	
His Leu Pro His Thr Gly Gly Ala Ile Cys Thr Gln Asn Leu Thr			
180	185	190	
Ile Ser Gln Asn Thr Gly Asn Val Leu Phe Tyr Asn Asn Val Ala Cys			
195	200	205	
Ser Gly Gly Ala Val Arg Ile Glu Asp His Gly Asn Val Leu Leu Glu			
210	215	220	
Ala Phe Gly Gly Asp Ile Val Phe Lys Gly Asn Ser Ser Phe Arg Ala			
225	230	235	240
Gln Gly Ser Asp Ala Ile Tyr Phe Ala Gly Lys Glu Ser His Ile Thr			
245	250	255	
Ala Leu Asn Ala Thr Glu Gly His Ala Ile Val Phe His Asp Ala Leu			
260	265	270	
Val Phe Glu Asn Leu Lys Glu Arg Lys Ser Ala Glu Val Leu Leu Ile			
275	280	285	
Asn Ser Arg Glu Asn Pro Gly Tyr Thr Gly Ser Ile Arg Phe Leu Glu			
290	295	300	
Ala Glu Ser Lys Val Pro Gln Cys Ile His Val Gln Gln Gly Ser Leu			

305	310	315	320												
Glu	Leu	Leu	Asn	Gly	Ala	Thr	Leu	Cys	Ser	Tyr	Gly	Phe	Lys	Gln	Asp
325		330											335		
Ala	Gly	Ala	Lys	Leu	Val	Leu	Ala	Ala	Gly	Ser	Lys	Leu	Lys	Ile	Leu
340		345											350		
Asp	Ser	Gly	Thr	Pro	Val	Gln	Gly	His	Ala	Ile	Ser	Lys	Pro	Glu	Ala
355		360										365			
Glu	Ile	Glu	Ser	Ser	Ser	Glu	Pro	Glu	Gly	Ala	His	Ser	Leu	Trp	Ile
370		375										380			
Ala	Lys	Asn	Ala	Gln	Thr	Thr	Val	Pro	Met	Val	Asp	Ile	His	Thr	Ile
385		390									395			400	
Ser	Val	Asp	Leu	Ala	Ser	Phe	Ser	Ser	Gln	Gln	Glu	Gly	Thr	Val	
405		410											415		
Glu	Ala	Pro	Gln	Val	Ile	Val	Pro	Gly	Gly	Ser	Tyr	Val	Arg	Ser	Gly
420		425											430		
Glu	Leu	Asn	Leu	Glu	Leu	Val	Asn	Thr	Thr	Gly	Thr	Gly	Tyr	Glu	Asn
435		440										445			
His	Ala	Leu	Leu	Lys	Asn	Glu	Ala	Lys	Val	Pro	Leu	Met	Ser	Phe	Val
450		455									460				
Ala	Ser	Ser	Asp	Glu	Ala	Ser	Ala	Glu	Ile	Ser	Asn	Leu	Ser	Val	Ser
465		470									475			480	
Asp	Leu	Gln	Ile	His	Val	Ala	Thr	Pro	Glu	Ile	Glu	Glu	Asp	Thr	Tyr
485		490											495		
Gly	His	Met	Gly	Asp	Trp	Ser	Glu	Ala	Lys	Ile	Gln	Asp	Gly	Thr	Leu
500		505											510		
Val	Ile	Asn	Trp	Asn	Pro	Thr	Gly	Tyr	Arg	Leu	Asp	Pro	Gln	Lys	Ala
515		520											525		
Gly	Ala	Leu	Val	Phe	Asn	Ala	Leu	Trp	Glu	Glu	Gly	Ala	Val	Leu	Ser
530		535											540		
Ala	Leu	Lys	Asn	Ala	Arg	Phe	Ala	His	Asn	Leu	Thr	Ala	Gln	Arg	Met
545		550									555			560	
Glu	Phe	Asp	Tyr	Ser	Thr	Asn	Val	Trp	Gly	Phe	Ala	Phe	Gly	Gly	Phe
565		570											575		
Arg	Thr	Leu	Ser	Ala	Glu	Asn	Leu	Val	Ala	Ile	Asp	Gly	Tyr	Lys	Gly
580		585											590		
Ala	Tyr	Gly	Gly	Ala	Ser	Ala	Gly	Val	Asp	Ile	Gln	Leu	Met	Glu	Asp
595		600											605		
Phe	Val	Leu	Gly	Val	Ser	Gly	Ala	Ala	Phe	Leu	Gly	Lys	Met	Asp	Ser
610		615									620				
Gln	Lys	Phe	Asp	Ala	Glu	Val	Ser	Arg	Lys	Gly	Val	Val	Gly	Ser	Val
625		630									635			640	
Tyr	Thr	Gly	Phe	Leu	Ala	Gly	Ser	Trp	Phe	Phe	Lys	Gly	Gln	Tyr	Ser
645		650											655		
Leu	Gly	Glu	Thr	Gln	Asn	Asp	Met	Lys	Thr	Arg	Tyr	Gly	Val	Leu	Gly
660		665											670		
Glu	Ser	Ser	Ala	Ser	Trp	Thr	Ser	Arg	Gly	Val	Leu	Ala	Asp	Ala	Leu
675		680											685		
Val	Glu	Tyr	Arg	Ser	Leu	Val	Gly	Pro	Val	Arg	Pro	Thr	Phe	Tyr	Ala
690		695											700		
Leu	His	Phe	Asn	Pro	Tyr	Val	Glu	Val	Ser	Tyr	Ala	Ser	Met	Lys	Phe
705		710									715			720	
Pro	Gly	Phe	Thr	Glu	Gln	Gly	Arg	Glu	Ala	Arg	Ser	Phe	Glu	Asp	Ala
725		730											735		
Ser	Leu	Thr	Asn	Ile	Thr	Ile	Pro	Leu	Gly	Met	Lys	Phe	Glu	Leu	Ala
740		745											750		
Phe	Ile	Lys	Gly	Gln	Phe	Ser	Glu	Val	Asn	Ser	Leu	Gly	Ile	Ser	Tyr
755		760											765		

Ala Trp Glu Ala Tyr Arg Lys Val Glu Gly Gly Ala Val Gln Leu Leu
 770 775 780
 Glu Ala Gly Phe Asp Trp Glu Gly Ala Pro Met Asp Leu Pro Arg Gln
 785 790 795 800
 Glu Leu Arg Val Ala Leu Glu Asn Asn Thr Glu Trp Ser Ser Tyr Phe
 805 810 815
 Ser Thr Val Leu Gly Leu Thr Ala Phe Cys Gly Gly Phe Thr Ser Thr
 820 825 830
 Asp Ser Lys Leu Gly Tyr Glu Ala Asn Thr Gly Leu Arg Leu Ile Phe
 835 840 845

<210> 193

<211> 778

<212> PRT

<213> Chlamydia

<400> 193

Met His His His His His Gly Leu Ala Ser Cys Val Asp Leu His
 1 5 10 15
 Ala Gly Gly Gln Ser Val Asn Glu Leu Val Tyr Val Gly Pro Gln Ala
 20 25 30
 Val Leu Leu Leu Asp Gln Ile Arg Asp Leu Phe Val Gly Ser Lys Asp
 35 40 45
 Ser Gln Ala Glu Gly Gln Tyr Arg Leu Ile Val Gly Asp Pro Ser Ser
 50 55 60
 Phe Gln Glu Lys Asp Ala Asp Thr Leu Pro Gly Lys Val Glu Gln Ser
 65 70 75 80
 Thr Leu Phe Ser Val Thr Asn Pro Val Val Phe Gln Gly Val Asp Gln
 85 90 95
 Gln Asp Gln Val Ser Ser Gln Gly Leu Ile Cys Ser Phe Thr Ser Ser
 100 105 110
 Asn Leu Asp Ser Pro Arg Asp Gly Glu Ser Phe Leu Gly Ile Ala Phe
 115 120 125
 Val Gly Asp Ser Ser Lys Ala Gly Ile Thr Leu Thr Asp Val Lys Ala
 130 135 140
 Ser Leu Ser Gly Ala Ala Leu Tyr Ser Thr Glu Asp Leu Ile Phe Glu
 145 150 155 160
 Lys Ile Lys Gly Gly Leu Glu Phe Ala Ser Cys Ser Ser Leu Glu Gln
 165 170 175
 Gly Gly Ala Cys Ala Ala Gln Ser Ile Leu Ile His Asp Cys Gln Gly
 180 185 190
 Leu Gln Val Lys His Cys Thr Thr Ala Val Asn Ala Glu Gly Ser Ser
 195 200 205
 Ala Asn Asp His Leu Gly Phe Gly Gly Ala Phe Phe Val Thr Gly
 210 215 220
 Ser Leu Ser Gly Glu Lys Ser Leu Tyr Met Pro Ala Gly Asp Met Val
 225 230 235 240
 Val Ala Asn Cys Asp Gly Ala Ile Ser Phe Glu Gly Asn Ser Ala Asn
 245 250 255
 Phe Ala Asn Gly Gly Ala Ile Ala Ala Ser Gly Lys Val Leu Phe Val
 260 265 270
 Ala Asn Asp Lys Lys Thr Ser Phe Ile Glu Asn Arg Ala Leu Ser Gly
 275 280 285
 Gly Ala Ile Ala Ala Ser Ser Asp Ile Ala Phe Gln Asn Cys Ala Glu
 290 295 300
 Leu Val Phe Lys Gly Asn Cys Ala Ile Gly Thr Glu Asp Lys Gly Ser
 305 310 315 320

Leu Gly Gly Gly Ala Ile Ser Ser Leu Gly Thr Val Leu Leu Gln Gly
 325 330 335
 Asn His Gly Ile Thr Cys Asp Lys Asn Glu Ser Ala Ser Gln Gly Gly
 340 345 350
 Ala Ile Phe Gly Lys Asn Cys Gln Ile Ser Asp Asn Glu Gly Pro Val
 355 360 365
 Val Phe Arg Asp Ser Thr Ala Cys Leu Gly Gly Ala Ile Ala Ala
 370 375 380
 Gln Glu Ile Val Ser Ile Gln Asn Asn Gln Ala Gly Ile Ser Phe Glu
 385 390 395 400
 Gly Gly Lys Ala Ser Phe Gly Gly Ile Ala Cys Gly Ser Phe Ser
 405 410 415
 Ser Ala Gly Gly Ala Ser Val Leu Gly Thr Ile Asp Ile Ser Lys Asn
 420 425 430
 Leu Gly Ala Ile Ser Phe Ser Arg Thr Leu Cys Thr Thr Ser Asp Leu
 435 440 445
 Gly Gln Met Glu Tyr Gln Gly Gly Ala Leu Phe Gly Glu Asn Ile
 450 455 460
 Ser Leu Ser Glu Asn Ala Gly Val Leu Thr Phe Lys Asp Asn Ile Val
 465 470 475 480
 Lys Thr Phe Ala Ser Asn Gly Lys Ile Leu Gly Gly Ala Ile Leu
 485 490 495
 Ala Thr Gly Lys Val Glu Ile Thr Asn Asn Ser Gly Gly Ile Ser Phe
 500 505 510
 Thr Gly Asn Ala Arg Ala Pro Gln Ala Leu Pro Thr Gln Glu Glu Phe
 515 520 525
 Pro Leu Phe Ser Lys Lys Glu Gly Arg Pro Leu Ser Ser Gly Tyr Ser
 530 535 540
 Gly Gly Gly Ala Ile Leu Gly Arg Glu Val Ala Ile Leu His Asn Ala
 545 550 555 560
 Ala Val Val Phe Glu Gln Asn Arg Leu Gln Cys Ser Glu Glu Ala
 565 570 575
 Thr Leu Leu Gly Cys Cys Gly Gly Ala Val His Gly Met Asp Ser
 580 585 590
 Thr Ser Ile Val Gly Asn Ser Ser Val Arg Phe Gly Asn Asn Tyr Ala
 595 600 605
 Met Gly Gln Gly Val Ser Gly Gly Ala Leu Leu Ser Lys Thr Val Gln
 610 615 620
 Leu Ala Gly Asn Gly Ser Val Asp Phe Ser Arg Asn Ile Ala Ser Leu
 625 630 635 640
 Gly Gly Gly Ala Leu Gln Ala Ser Glu Gly Asn Cys Glu Leu Val Asp
 645 650 655
 Asn Gly Tyr Val Leu Phe Arg Asp Asn Arg Gly Arg Val Tyr Gly Gly
 660 665 670
 Ala Ile Ser Cys Leu Arg Gly Asp Val Val Ile Ser Gly Asn Lys Gly
 675 680 685
 Arg Val Glu Phe Lys Asp Asn Ile Ala Thr Arg Leu Tyr Val Glu Glu
 690 695 700
 Thr Val Glu Lys Val Glu Glu Val Glu Pro Ala Pro Glu Gln Lys Asp
 705 710 715 720
 Asn Asn Glu Leu Ser Phe Leu Gly Ser Val Glu Gln Ser Phe Ile Thr
 725 730 735
 Ala Ala Asn Gln Ala Leu Phe Ala Ser Glu Asp Gly Asp Leu Ser Pro
 740 745 750
 Glu Ser Ser Ile Ser Ser Glu Glu Leu Ala Lys Arg Arg Glu Cys Ala
 755 760 765
 Gly Gly Ala Asp Ser Ser Arg Ser Gly Cys

770

775

<210> 194
<211> 948
<212> PRT
<213> Chlamydia

<400> 194

Met	Ala	Ser	Met	His	His	His	His	His	Val	Lys	Ile	Glu	Asn	Phe	
1				5					10				15		
Ser	Gly	Gln	Gly	Ile	Phe	Ser	Gly	Asn	Lys	Ala	Ile	Asp	Asn	Thr	Thr
				20				25					30		
Glu	Gly	Ser	Ser	Ser	Lys	Ser	Asn	Val	Leu	Gly	Gly	Ala	Val	Tyr	Ala
		35				40					45				
Lys	Thr	Leu	Phe	Asn	Leu	Asp	Ser	Gly	Ser	Ser	Arg	Arg	Thr	Val	Thr
	50				55					60					
Phe	Ser	Gly	Asn	Thr	Val	Ser	Ser	Gln	Ser	Thr	Thr	Gly	Gln	Val	Ala
	65				70				75				80		
Gly	Gly	Ala	Ile	Tyr	Ser	Pro	Thr	Val	Thr	Ile	Ala	Thr	Pro	Val	Val
		85				90						95			
Phe	Ser	Lys	Asn	Ser	Ala	Thr	Asn	Asn	Ala	Asn	Asn	Ala	Thr	Asp	Thr
		100					105					110			
Gln	Arg	Lys	Asp	Thr	Phe	Gly	Gly	Ala	Ile	Gly	Ala	Thr	Ser	Ala	Val
		115				120					125				
Ser	Leu	Ser	Gly	Gly	Ala	His	Phe	Leu	Glu	Asn	Val	Ala	Asp	Leu	Gly
	130					135				140					
Ser	Ala	Ile	Gly	Leu	Val	Pro	Asp	Thr	Gln	Asn	Thr	Glu	Thr	Val	Lys
	145				150					155				160	
Leu	Glu	Ser	Gly	Ser	Tyr	Tyr	Phe	Glu	Lys	Asn	Lys	Ala	Leu	Lys	Arg
		165					170				175				
Ala	Thr	Ile	Tyr	Ala	Pro	Val	Val	Ser	Ile	Lys	Ala	Tyr	Thr	Ala	Thr
		180				185					190				
Phe	Asn	Gln	Asn	Arg	Ser	Leu	Glu	Glu	Gly	Ser	Ala	Ile	Tyr	Phe	Thr
		195				200					205				
Lys	Glu	Ala	Ser	Ile	Glu	Ser	Leu	Gly	Ser	Val	Leu	Phe	Thr	Gly	Asn
	210					215				220					
Leu	Val	Thr	Pro	Thr	Leu	Ser	Thr	Thr	Thr	Glu	Gly	Thr	Pro	Ala	Thr
	225				230				235					240	
Thr	Ser	Gly	Asp	Val	Thr	Lys	Tyr	Gly	Ala	Ala	Ile	Phe	Gly	Gln	Ile
		245					250					255			
Ala	Ser	Ser	Asn	Gly	Ser	Gln	Thr	Asp	Asn	Leu	Pro	Leu	Lys	Leu	Ile
		260					265					270			
Ala	Ser	Gly	Gly	Asn	Ile	Cys	Phe	Arg	Asn	Asn	Glu	Tyr	Arg	Pro	Thr
		275				280					285				
Ser	Ser	Asp	Thr	Gly	Thr	Ser	Thr	Phe	Cys	Ser	Ile	Ala	Gly	Asp	Val
	290					295				300					
Lys	Leu	Thr	Met	Gln	Ala	Ala	Lys	Gly	Lys	Thr	Ile	Ser	Phe	Phe	Asp
	305					310				315				320	
Ala	Ile	Arg	Thr	Ser	Thr	Lys	Lys	Thr	Gly	Thr	Gln	Ala	Thr	Ala	Tyr
		325						330					335		
Asp	Thr	Leu	Asp	Ile	Asn	Lys	Ser	Glu	Asp	Ser	Glu	Thr	Val	Asn	Ser
		340					345					350			
Ala	Phe	Thr	Gly	Thr	Ile	Leu	Phe	Ser	Ser	Glu	Leu	His	Glu	Asn	Lys
		355				360					365				
Ser	Tyr	Ile	Pro	Gln	Asn	Val	Val	Leu	His	Ser	Gly	Ser	Leu	Val	Leu
	370					375				380					
Lys	Pro	Asn	Thr	Glu	Leu	His	Val	Ile	Ser	Phe	Glu	Gln	Lys	Glu	Gly

385	390	395	400
Ser Ser Leu Val Met Thr Pro Gly Ser Val	Leu Ser Asn Gln Thr Val		
405	410	415	
Ala Asp Gly Ala Leu Val Ile Asn Asn Met	Thr Ile Asp Leu Ser Ser		
420	425	430	
Val Glu Lys Asn Gly Ile Ala Glu Gly Asn Ile Phe Thr Pro Pro Glu			
435	440	445	
Leu Arg Ile Ile Asp Thr Thr Ser Gly Ser Gly	Gly Thr Pro Ser		
450	455	460	
Thr Asp Ser Glu Ser Asn Gln Asn Ser Asp Asp	Thr Lys Glu Gln Asn		
465	470	475	480
Asn Asn Asp Ala Ser Asn Gln Gly Glu Ser Ala Asn Gly Ser Ser Ser			
485	490	495	
Pro Ala Val Ala Ala Ala His Thr Ser Arg Thr Arg Asn Phe Ala Ala			
500	505	510	
Ala Ala Thr Ala Thr Pro Thr Thr Pro Thr Ala	Thr Thr Thr Thr		
515	520	525	
Ser Asn Gln Val Ile Leu Gly Gly Glu Ile Lys Leu Ile Asp Pro Asn			
530	535	540	
Gly Thr Phe Phe Gln Asn Pro Ala Leu Arg Ser Asp Gln Gln Ile Ser			
545	550	555	560
Leu Leu Val Leu Pro Thr Asp Ser Ser Lys Met Gln Ala Gln Lys Ile			
565	570	575	
Val Leu Thr Gly Asp Ile Ala Pro Gln Lys Gly Tyr Thr Gly Thr Leu			
580	585	590	
Thr Leu Asp Pro Asp Gln Leu Gln Asn Gly Thr Ile Ser Ala Leu Trp			
595	600	605	
Lys Phe Asp Ser Tyr Arg Gln Trp Ala Tyr Val Pro Arg Asp Asn His			
610	615	620	
Phe Tyr Ala Asn Ser Ile Leu Gly Ser Gln Met Ser Met Val Thr Val			
625	630	635	640
Lys Gln Gly Leu Leu Asn Asp Lys Met Asn Leu Ala Arg Phe Asp Glu			
645	650	655	
Val Ser Tyr Asn Asn Leu Trp Ile Ser Gly Leu Gly Thr Met Leu Ser			
660	665	670	
Gln Val Gly Thr Pro Thr Ser Glu Glu Phe Thr Tyr Tyr Ser Arg Gly			
675	680	685	
Ala Ser Val Ala Leu Asp Ala Lys Pro Ala His Asp Val Ile Val Gly			
690	695	700	
Ala Ala Phe Ser Lys Met Ile Gly Lys Thr Lys Ser Leu Lys Arg Glu			
705	710	715	720
Asn Asn Tyr Thr His Lys Gly Ser Glu Tyr Ser Tyr Gln Ala Ser Val			
725	730	735	
Tyr Gly Gly Lys Pro Phe His Phe Val Ile Asn Lys Lys Thr Glu Lys			
740	745	750	
Ser Leu Pro Leu Leu Gln Gly Val Ile Ser Tyr Gly Tyr Ile Lys			
755	760	765	
His Asp Thr Val Thr His Tyr Pro Thr Ile Arg Glu Arg Asn Gln Gly			
770	775	780	
Glu Trp Glu Asp Leu Gly Trp Leu Thr Ala Leu Arg Val Ser Ser Val			
785	790	795	800
Leu Arg Thr Pro Ala Gln Gly Asp Thr Lys Arg Ile Thr Val Tyr Gly			
805	810	815	
Glu Leu Glu Tyr Ser Ser Ile Arg Gln Lys Gln Phe Thr Glu Thr Glu			
820	825	830	
Tyr Asp Pro Arg Tyr Phe Asp Asn Cys Thr Tyr Arg Asn Leu Ala Ile			
835	840	845	

Pro Met Gly Leu Ala Phe Glu Gly Glu Leu Ser Gly Asn Asp Ile Leu
 850 855 860
 Met Tyr Asn Arg Phe Ser Val Ala Tyr Met Pro Ser Ile Tyr Arg Asn
 865 870 875 880
 Ser Pro Thr Cys Lys Tyr Gln Val Leu Ser Ser Gly Glu Gly Glu
 885 890 895
 Ile Ile Cys Gly Val Pro Thr Arg Asn Ser Ala Arg Gly Glu Tyr Ser
 900 905 910
 Thr Gln Leu Tyr Pro Gly Pro Leu Trp Thr Leu Tyr Gly Ser Tyr Thr
 915 920 925
 Ile Glu Ala Asp Ala His Thr Leu Ala His Met Met Asn Cys Gly Ala
 930 935 940
 Arg Met Thr Phe
 945

<210> 195

<211> 821

<212> PRT

<213> Chlamydia

<400> 195

Met His His His His His Glu Ala Ser Ser Ile Gln Asp Gln Ile
 1 5 10 15
 Lys Asn Thr Asp Cys Asn Val Ser Lys Val Gly Tyr Ser Thr Ser Gln
 20 25 30
 Ala Phe Thr Asp Met Met Leu Ala Asp Asn Thr Glu Tyr Arg Ala Ala
 35 40 45
 Asp Ser Val Ser Phe Tyr Asp Phe Ser Thr Ser Ser Gly Leu Pro Arg
 50 55 60
 Lys His Leu Ser Ser Ser Ser Glu Ala Ser Pro Thr Thr Glu Gly Val
 65 70 75 80
 Ser Ser Ser Ser Ser Ser Gly Glu Asn Thr Glu Asn Ser Gln Asp Ser Ala
 85 90 95
 Pro Ser Ser Gly Glu Thr Asp Lys Lys Thr Glu Glu Glu Leu Asp Asn
 100 105 110
 Gly Gly Ile Ile Tyr Ala Arg Glu Lys Leu Thr Ile Ser Glu Ser Gln
 115 120 125
 Asp Ser Leu Ser Asn Pro Ser Ile Glu Leu His Asp Asn Ser Phe Phe
 130 135 140
 Phe Gly Glu Gly Glu Val Ile Phe Asp His Arg Val Ala Leu Lys Asn
 145 150 155 160
 Gly Gly Ala Ile Tyr Gly Glu Lys Glu Val Val Phe Glu Asn Ile Lys
 165 170 175
 Ser Leu Leu Val Glu Val Asn Ile Ser Val Glu Lys Gly Ser Val
 180 185 190
 Tyr Ala Lys Glu Arg Val Ser Leu Glu Asn Val Thr Glu Ala Thr Phe
 195 200 205
 Ser Ser Asn Gly Gly Glu Gln Gly Gly Gly Ile Tyr Ser Glu Gln
 210 215 220
 Asp Met Leu Ile Ser Asp Cys Asn Asn Val His Phe Gln Gly Asn Ala
 225 230 235 240
 Ala Gly Ala Thr Ala Val Lys Gln Cys Leu Asp Glu Glu Met Ile Val
 245 250 255
 Leu Leu Thr Glu Cys Val Asp Ser Leu Ser Glu Asp Thr Leu Asp Ser
 260 265 270
 Thr Pro Glu Thr Glu Gln Thr Lys Ser Asn Gly Asn Gln Asp Gly Ser
 275 280 285

Ser Glu Thr Lys Asp Thr Gln Val Ser Glu Ser Pro Glu Ser Thr Pro
 290 295 300
 Ser Pro Asp Asp Val Leu Gly Lys Gly Gly Ile Tyr Thr Glu Lys
 305 310 315 320
 Ser Leu Thr Ile Thr Gly Ile Thr Gly Thr Ile Asp Phe Val Ser Asn
 325 330 335
 Ile Ala Thr Asp Ser Gly Ala Gly Val Phe Thr Lys Glu Asn Leu Ser
 340 345 350
 Cys Thr Asn Thr Asn Ser Leu Gln Phe Leu Lys Asn Ser Ala Gly Gln
 355 360 365
 His Gly Gly Ala Tyr Val Thr Gln Thr Met Ser Val Thr Asn Thr
 370 375 380
 Thr Ser Glu Ser Ile Thr Pro Pro Leu Val Gly Glu Val Ile Phe
 385 390 395 400
 Ser Glu Asn Thr Ala Lys Gly His Gly Gly Ile Cys Thr Asn Lys
 405 410 415
 Leu Ser Leu Ser Asn Leu Lys Thr Val Thr Leu Thr Lys Asn Ser Ala
 420 425 430
 Lys Glu Ser Gly Gly Ala Ile Phe Thr Asp Leu Ala Ser Ile Pro Thr
 435 440 445
 Thr Asp Thr Pro Glu Ser Ser Thr Pro Ser Ser Ser Pro Ala Ser
 450 455 460
 Thr Pro Glu Val Val Ala Ser Ala Lys Ile Asn Arg Phe Phe Ala Ser
 465 470 475 480
 Thr Ala Glu Pro Ala Ala Pro Ser Leu Thr Glu Ala Glu Ser Asp Gln
 485 490 495
 Thr Asp Gln Thr Glu Thr Ser Asp Thr Asn Ser Asp Ile Asp Val Ser
 500 505 510
 Ile Glu Asn Ile Leu Asn Val Ala Ile Asn Gln Asn Thr Ser Ala Lys
 515 520 525
 Lys Gly Gly Ala Ile Tyr Gly Lys Lys Ala Lys Leu Ser Arg Ile Asn
 530 535 540
 Asn Leu Glu Leu Ser Gly Asn Ser Ser Gln Asp Val Gly Gly Gly Leu
 545 550 555 560
 Cys Leu Thr Glu Ser Val Glu Phe Asp Ala Ile Gly Ser Leu Leu Ser
 565 570 575
 His Tyr Asn Ser Ala Ala Lys Glu Gly Gly Val Ile His Ser Lys Thr
 580 585 590
 Val Thr Leu Ser Asn Leu Lys Ser Thr Phe Thr Phe Ala Asp Asn Thr
 595 600 605
 Val Lys Ala Ile Val Glu Ser Thr Pro Glu Ala Pro Glu Glu Ile Pro
 610 615 620
 Pro Val Glu Gly Glu Ser Thr Ala Thr Glu Asn Pro Asn Ser Asn
 625 630 635 640
 Thr Glu Gly Ser Ser Ala Asn Thr Asn Leu Glu Gly Ser Gln Gly Asp
 645 650 655
 Thr Ala Asp Thr Gly Thr Gly Val Val Asn Asn Glu Ser Gln Asp Thr
 660 665 670
 Ser Asp Thr Gly Asn Ala Glu Ser Gly Glu Gln Leu Gln Asp Ser Thr
 675 680 685
 Gln Ser Asn Glu Glu Asn Thr Leu Pro Asn Ser Ser Ile Asp Gln Ser
 690 695 700
 Asn Glu Asn Thr Asp Glu Ser Ser Asp Ser His Thr Glu Glu Ile Thr
 705 710 715 720
 Asp Glu Ser Val Ser Ser Ser Lys Ser Gly Ser Ser Thr Pro Gln
 725 730 735
 Asp Gly Gly Ala Ala Ser Ser Gly Ala Pro Ser Gly Asp Gln Ser Ile

740	745	750	
Ser Ala Asn Ala Cys Leu Ala Lys	Ser Tyr Ala Ala Ser	Thr Asp Ser	
755	760	765	
Ser Pro Val Ser Asn Ser Ser Gly	Ser Asp Val Thr Ala Ser	Ser Asp	
770	775	780	
Asn Pro Asp Ser Ser Ser Gly	Asp Ser Ala Gly Asp Ser	Glu Gly	
785	790	795	800
Pro Thr Glu Pro Glu Ala Gly	Ser Thr Thr Glu Thr Pro	Thr Leu Ile	
805	810		815
Gly Gly Gly Ala Ile			
820			

<210> 196

<211> 525

<212> PRT

<213> Chlamydia

<400> 196

Met His His His His His	Thr Ala Ala Ser Asp Asn	Phe Gln Leu	
1	5	10	15
Ser Gln Gly Gly Gln Gly	Phe Ala Ile Pro Ile Gly Gln	Ala Met Ala	
20	25	30	
Ile Ala Gly Gln Ile Lys	Leu Pro Thr Val His Ile Gly	Pro Thr Ala	
35	40	45	
Phe Leu Gly Leu Gly Val	Val Asp Asn Asn Gly Asn	Gly Ala Arg Val	
50	55	60	
Gln Arg Val Val Gly	Ser Ala Pro Ala Ala Ser	Leu Gly Ile Ser Thr	
65	70	75	80
Gly Asp Val Ile Thr	Ala Val Asp Gly Ala Pro	Ile Asn Ser Ala Thr	
85	90	95	
Ala Met Ala Asp Ala Leu	Asn Gly His His Pro	Gly Asp Val Ile Ser	
100	105	110	
Val Thr Trp Gln Thr Lys	Ser Gly Gly Thr Arg Thr	Gly Asn Val Thr	
115	120	125	
Leu Ala Glu Gly Pro Pro	Ala Glu Phe Pro Leu Val	Pro Arg Gly Ser	
130	135	140	
Pro Leu Pro Val Gly	Asn Pro Ala Glu Pro Ser	Leu Leu Ile Asp Gly	
145	150	155	160
Thr Met Trp Glu Gly	Ala Ser Gly Asp Pro	Cys Asp Pro Cys Ala Thr	
165	170	175	
Trp Cys Asp Ala Ile Ser	Ile Arg Ala Gly Tyr	Tyr Gly Asp Tyr Val	
180	185	190	
Phe Asp Arg Val Leu Lys	Val Asp Val Asn Lys	Thr Phe Ser Gly Met	
195	200	205	
Ala Ala Thr Pro Thr Gln	Ala Ile Gly Asn Ala Ser	Asn Thr Asn Gln	
210	215	220	
Pro Glu Ala Asn Gly	Arg Pro Asn Ile Ala	Tyr Gly Arg His Met Gln	
225	230	235	240
Asp Ala Glu Trp Phe	Ser Asn Ala Ala Phe	Leu Ala Leu Asn Ile Trp	
245	250	255	
Asp Arg Phe Asp Ile Phe	Cys Thr Leu Gly Ala Ser	Asn Gly Tyr Phe	
260	265	270	
Lys Ala Ser Ser Ala Ala	Phe Asn Leu Val Gly	Leu Ile Gly Phe Ser	
275	280	285	
Ala Ala Ser Ser Ile Ser	Thr Asp Leu Pro Met	Gln Leu Pro Asn Val	
290	295	300	
Gly Ile Thr Gln Gly Val	Val Glu Phe Tyr	Thr Asp Thr Ser Phe Ser	

305	310	315	320
Trp Ser Val Gly Ala Arg Gly Ala Leu Trp Glu Cys Gly Cys Ala Thr			
325	330	335	
Leu Gly Ala Glu Phe Gln Tyr Ala Gln Ser Asn Pro Lys Ile Glu Met			
340	345	350	
Leu Asn Val Thr Ser Ser Pro Ala Gln Phe Val Ile His Lys Pro Arg			
355	360	365	
Gly Tyr Lys Gly Ala Ser Ser Asn Phe Pro Leu Pro Ile Thr Ala Gly			
370	375	380	
Thr Thr Glu Ala Thr Asp Thr Lys Ser Ala Thr Ile Lys Tyr His Glu			
385	390	395	400
Trp Gln Val Gly Leu Ala Leu Ser Tyr Arg Leu Asn Met Leu Val Pro			
405	410	415	
Tyr Ile Gly Val Asn Trp Ser Arg Ala Thr Phe Asp Ala Asp Thr Ile			
420	425	430	
Arg Ile Ala Gln Pro Lys Leu Lys Ser Glu Ile Leu Asn Ile Thr Thr			
435	440	445	
Trp Asn Pro Ser Leu Ile Gly Ser Thr Thr Ala Leu Pro Asn Asn Ser			
450	455	460	
Gly Lys Asp Val Leu Ser Asp Val Leu Gln Ile Ala Ser Ile Gln Ile			
465	470	475	480
Asn Lys Met Lys Ser Arg Lys Ala Cys Gly Val Ala Val Gly Ala Thr			
485	490	495	
Leu Ile Asp Ala Asp Lys Trp Ser Ile Thr Gly Glu Ala Arg Leu Ile			
500	505	510	
Asn Glu Arg Ala Ala His Met Asn Ala Gln Phe Arg Phe			
515	520	525	

<210> 197

<211> 43

<212> DNA

<213> Chlamydia

<400> 197

gataggcgcg ccgcaatcat gaaatttatg tcagctactg ctg

43

<210> 198

<211> 34

<212> DNA

<213> Chlamydia

<400> 198

cagaacgcgt ttagaatgtc atacgagcac cgca

34

<210> 199

<211> 6

<212> DNA

<213> Chlamydia

<400> 199

gcaatc

6

<210> 200

<211> 34

<212> DNA

<213> Chlamydia

<400> 200	
tgcaatcatg agttcgcaga aagatataaa aagc	34
<210> 201	- - -
<211> 38	
<212> DNA	
<213> Chlamydia	
<400> 201	
cagagctagc taaaaagatc aatcgcaatc cagtattc	38
<210> 202	
<211> 5	
<212> DNA	
<213> Chlamydia	
<400> 202	
caatc	5
<210> 203	
<211> 31	
<212> DNA	
<213> Chlamydia	
<400> 203	
tgcaatcatg aaaaaagcgt ttttctttt c	31
<210> 204	
<211> 31	
<212> DNA	
<213> Chlamydia	
<400> 204	
cagaacgcgt ctagaatcgc agagcaattt c	31
<210> 205	
<211> 30	
<212> DNA	
<213> Chlamydia	
<400> 205	
gtgcaatcat gattcctcaa ggaatttacg	30
<210> 206	
<211> 31	
<212> DNA	
<213> Chlamydia	
<400> 206	
cagaacgcgt ttagaacccgg actttacttc c	31
<210> 207	
<211> 50	
<212> DNA	
<213> Chlamydia	
<400> 207	

cagacatatg catcaccatc accatcacga ggcgagctcg atccaagatc	50
<210> 208	
<211> 40	
<212> DNA	
<213> Chlamydia	
<400> 208	
cagaggtacc tcagatagca ctcttccta ttaaagttagg	40
<210> 209	
<211> 55	
<212> DNA	
<213> Chlamydia	
<400> 209	
cagagctagc atgcatcacc atcaccatca cgttaagatt gagaacttct ctggc	55
<210> 210	
<211> 35	
<212> DNA	
<213> Chlamydia	
<400> 210	
cagaggtacc ttagaatgtc atacgagcac cgca	35
<210> 211	
<211> 36	
<212> DNA	
<213> Chlamydia	
<400> 211	
cagacatatg catcaccatc accatcacgg gttac	36
<210> 212	
<211> 35	
<212> DNA	
<213> Chlamydia	
<400> 212	
cagaggtacc tcagtcctc cagcacactc tcttc	35
<210> 213	
<211> 51	
<212> DNA	
<213> Chlamydia	
<400> 213	
cagagctagc catcaccatc accatcacgg tgctatttct tgcttacgtg g	51
<210> 214	
<211> 38	
<212> DNA	
<213> Chlamydia	
<400> 214	
cagaggtact taaaagatca atcgcaatcc agtattcg	38

<210> 215
 <211> 48
 <212> DNA
 <213> Chlamydia

<400> 215
 cagaggatcc acatcaccat caccatcacg gactagctag agaggttc 48

<210> 216
 <211> 31
 <212> DNA
 <213> Chlamydia

<400> 216
 cagagaattc ctagaatcgc agagcaattt c 31

<210> 217
 <211> 7
 <212> DNA
 <213> Chlamydia

<400> 217
 tgcaatc 7

<210> 218
 <211> 22
 <212> PRT
 <213> Chlamydia

<400> 218
 Met Ala Ser Met Thr Gly Gly Gln Gln Met Gly Arg Asp Ser Ser Leu
 1 5 10 15
 Val Pro Ser Ser Asp Pro
 20

<210> 219
 <211> 51
 <212> DNA
 <213> Chlamydia

<400> 219
 cagaggtacc gcatcaccat caccatcaca tgattcctca aggaatttac g 51

<210> 220
 <211> 33
 <212> DNA
 <213> Chlamydia

<400> 220
 cagagcggcc gcttagaacc ggactttact tcc 33

<210> 221
 <211> 24
 <212> PRT
 <213> Chlamydia

<400> 221
Met Ala Ser Met Thr Gly Gly Gln Gln Asn Gly Arg Asp Ser Ser Leu
1 5 10 15
Val Pro His His His His His His
20

<210> 222
<211> 46
<212> DNA
<213> Chlamydia

<400> 222
cagagctagc catcaccatc accatcacct ctttggccag gatccc 46

<210> 223
<211> 30
<212> DNA
<213> Chlamydia

<400> 223
cagaactagt ctagaacctg taagtggtcc 30

<210> 224
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 224
Met Ser Gln Lys Asn Lys Asn Ser Ala Phe Met His Pro Val Asn Ile
1 5 10 15
Ser Thr Asp Leu
20

<210> 225
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 225
Lys Asn Ser Ala Phe Met His Pro Val Asn Ile Ser Thr Asp Leu Ala
1 5 10 15
Val Ile Val Gly
20

<210> 226
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 226

His	Pro	Val	Asn	Ile	Ser	Thr	Asp	Leu	Ala	Val	Ile	Val	Gly	Lys	Gly
1	-	-	-	5	-	-	-	10	-	-	-	-	15	-	-
Pro	Met	Pro	Arg												
				20											

<210> 227

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 227

Ser	Thr	Asp	Leu	Ala	Val	Ile	Val	Gly	Lys	Gly	Pro	Met	Pro	Arg	Thr
1	-	-	-	5	-	-	-	10	-	-	15	-	-	-	-
Glu	Ile	Val	Lys												
				20											

<210> 228

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 228

Val	Ile	Val	Gly	Lys	Gly	Pro	Met	Pro	Arg	Thr	Glu	Ile	Val	Lys	Lys
1	-	-	-	5	-	-	-	10	-	-	15	-	-	-	-
Val	Trp	Glu	Tyr												
				20											

<210> 229

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 229

Gly	Pro	Met	Pro	Arg	Thr	Glu	Ile	Val	Lys	Lys	Val	Trp	Glu	Tyr	Ile
1	-	-	-	5	-	-	-	10	-	-	15	-	-	-	-
Lys	Lys	His	Asn												
				20											

<210> 230

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 230
Ile Lys Lys His Asn Cys Gln Asp Gln Lys Asn Lys Arg Asn Ile Leu
1 5 10 15
- Pro Asp Ala Asn - - - - -
20

<210> 231
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 231
Asn Cys Gln Asp Gln Lys Asn Lys Arg Asn Ile Leu Pro Asp Ala Asn
1 5 10 15
Leu Ala Lys Val
20

<210> 232
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 232
Lys Asn Lys Arg Asn Ile Leu Pro Asp Ala Asn Leu Ala Lys Val Phe
1 5 10 15
Gly Ser Ser Asp
20

<210> 233
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 233
Ile Leu Pro Asp Ala Asn Leu Ala Lys Val Phe Gly Ser Ser Asp Pro
1 5 10 15
Ile Asp Met Phe
20

<210> 234
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 234

Asn Leu Ala Lys Val Phe Gly Ser Ser Asp Pro Ile Asp Met Phe Gln
1 5 10 15
Met Thr Lys Ala
- 20 -

<210> 235
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 235
Phe Gly Ser Ser Asp Pro Ile Asp Met Phe Gln Met Thr Lys Ala Leu
1 5 10 15
Ser Lys His Ile Val Lys
20

<210> 236
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 236
Val Glu Ile Thr Gln Ala Val Pro Lys Tyr Ala Thr Val Gly Ser Pro
1 5 10 15
Tyr Pro Val Glu
20

<210> 237
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 237
Ala Val Pro Lys Tyr Ala Thr Val Gly Ser Pro Tyr Pro Val Glu Ile
1 5 10 15
Thr Ala Thr Gly
20

<210> 238
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 238
Ala Thr Val Gly Ser Pro Tyr Pro Val Glu Ile Thr Ala Thr Gly Lys

1
Arg Asp Cys Val
20

<210> 239
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 239
Pro Tyr Pro Val Glu Ile Thr Ala Thr Gly Lys Arg Asp Cys Val Asp
1 5 10 15
Val Ile Ile Thr
20

<210> 240
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 240
Ile Thr Ala Thr Gly Lys Arg Asp Cys Val Asp Val Ile Ile Thr Gln
1 5 10 15
Gln Leu Pro Cys Glu
20

<210> 241
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 241
Lys Arg Asp Cys Val Asp Val Ile Ile Thr Gln Gln Leu Pro Cys Glu
1 5 10 15
Ala Glu Phe Val
20

<210> 242
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 242
Asp Val Ile Ile Thr Gln Gln Leu Pro Cys Glu Ala Glu Phe Val Arg
1 5 10 15

Ser Asp Pro Ala
20

<210> 243
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 243
Thr Gln Gln Leu Pro Cys Glu Ala Glu Phe Val Arg Ser Asp Pro Ala
1 5 10 15
Thr Thr Pro Thr
20

<210> 244
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 244
Cys Glu Ala Glu Phe Val Arg Ser Asp Pro Ala Thr Thr Pro Thr Ala
1 5 10 15
Asp Gly Lys Leu
20

<210> 245
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 245
Val Arg Ser Asp Pro Ala Thr Thr Pro Thr Ala Asp Gly Lys Leu Val
1 5 10 15
Trp Lys Ile Asp
20

<210> 246
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 246
Ala Thr Thr Pro Thr Ala Asp Gly Lys Leu Val Trp Lys Ile Asp Arg
1 5 10 15
Leu Gly Gln Gly

20

<210> 247
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 247
Ala Asp Gly Lys Leu Val Trp Lys Ile Asp Arg Leu Gly Gln Gly Glu
1 5 10 15
Lys Ser Lys Ile
20

<210> 248
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 248
Val Trp Lys Ile Asp Arg Leu Gly Gln Gly Glu Lys Ser Lys Ile Thr
1 5 10 15
Val Trp Val Lys
20

<210> 249
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 249
Arg Leu Gly Gln Gly Glu Lys Ser Lys Ile Thr Val Trp Val Lys Pro
1 5 10 15
Leu Lys Glu Gly
20

<210> 250
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 250
Gly Glu Lys Ser Lys Ile Thr Val Trp Val Lys Pro Leu Lys Glu Gly
1 5 10 15
Cys Cys Phe Thr
20

<210> 251
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 251
Gly Glu Lys Ser Lys Ile Thr Val Trp Val Lys Pro Leu Lys Glu Gly
1 5 10 15

<210> 252
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 252
Lys Ile Thr Val Trp Val Lys Pro Leu Lys Glu Gly
1 5 10

<210> 253
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 253
Gly Asp Lys Cys Lys Ile Thr Val Trp Val Lys Pro Leu Lys Glu Gly
1 5 10 15

<210> 254
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 254
Thr Glu Tyr Pro Leu Leu Ala Asp Pro Ser Phe Lys Ile Ser Glu Ala
1 5 10 15
Phe Gly Val Leu
20

<210> 255
<211> 20
<212> PRT
<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 255

Leu Ala Asp Pro-Ser-Phe-Lys-Ile-Ser-Glu-Ala-Phe-Gly-Val-Leu-Asn
1 5 10 15
Pro Glu Gly Ser
20

<210> 256

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 256

Phe Lys Ile Ser Glu Ala Phe Gly Val Leu Asn Pro Glu Gly Ser Leu
1 5 10 15
Ala Leu Arg Ala
20

<210> 257

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 257

Ala Phe Gly Val Leu Asn Pro Glu Gly Ser Leu Ala Leu Arg Ala Thr
1 5 10 15
Phe Leu Ile Asp
20

<210> 258

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 258

Asn Pro Glu Gly Ser Leu Ala Leu Arg Ala Thr Phe Leu Ile Asp Lys
1 5 10 15
His Gly Val Ile
20

<210> 259

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 259

Leu Ala Leu Arg Ala Thr Phe Leu Ile Asp Lys His Gly Val Ile Arg
1 5 10 15
His Ala Val Ile
20

<210> 260

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 260

Thr Phe Leu Ile Asp Lys His Gly Val Ile Arg His Ala Val Ile Asn
1 5 10 15
Asp Leu Pro Leu
20

<210> 261

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 261

Lys His Gly Val Ile Arg His Ala Val Ile Asn Asp Leu Pro Leu Gly
1 5 10 15
Arg Ser Ile Asp
20

<210> 262

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 262

Arg His Ala Val Ile Asn Asp Leu Pro Leu Gly Arg Ser Ile Asp Glu
1 5 10 15
Glu Leu Arg Ile
20

<210> 263

<211> 897

<212> DNA

<213> Chlamydia

<220>

<221> misc_feature

<222> (1)...(897)

<223> n = A,T,C or G

<400> 263

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acacagccc acaataaaat gcgaagggt a gtaaataaga cgaaggagt ggataagact	120
attaagggtt ccaagtctgc tgccgaattt accgcaaata ttttggaca agctggaggc	180
gcgggctctt ccgcacacat tacagcttc caagtgtcca aaggattagg ggatgcgaga	240
actgttgtcg cttagggaa tgccttaac ggagcggtc caggaacagt tcaaagtgcg	300
caaagcttct tctctcacat gaaagctgtc agtcagaaaa cgcaagaagg ggatgagggg	360
ctcacagca g atcttgtgt gtctcataag cgcaagcgg ctgcggctgt ctgtacatc	420
atcggaggaa ttacacctt cgccgacattt ggagctatcc gtccgattt gttgtcaac	480
aaaatgctgg caaaaaccgtt tcttcttcc caaactaaag caaatatggg atcttctgtt	540
agctatatta tggcgctaa ccatgcagcg tctgtggtg gtgctggact cgctatcagt	600
gcgnnaagag cagattgcga agcccgtc gctcgtattt cgagagaaga gtcgttactc	660
gaagtgccgg gagagaaaaa tgcttgcgag aagaaagtgc ctggagagaa agccaagacg	720
ttcacgcgc a tcaagtatgc actcctact atgctcgaga agtttttgg atgcgttgc	780
gacgtttca aattggtgcc gtcgcctatt acaatggta ttctgtcgat tgtggctgct	840
ggatgtacgt tcacttctgc aattattgga ttgtgcactt tctgcgcag agataaa	897

<210> 264

<211> 298

<212> PRT

<213> Chlamydia

<220>

<221> VARIANT

<222> (1)...(298)

<223> Xaa = Any Amino Acid

<400> 264

Met Ala Ser Ile Cys Gly Arg Leu Gly Ser Gly Thr Gly Asn Ala Leu	
1 5 10 15	
Lys Ala Phe Phe Thr Gln Pro Asn Asn Lys Met Ala Arg Val Val Asn	
20 25 30	
Lys Thr Lys Gly Val Asp Lys Thr Ile Lys Val Ala Lys Ser Ala Ala	
35 40 45	
Glu Leu Thr Ala Asn Ile Leu Glu Gln Ala Gly Gly Ala Gly Ser Ser	
50 55 60	
Ala His Ile Thr Ala Ser Gln Val Ser Lys Gly Leu Gly Asp Ala Arg	
65 70 75 80	
Thr Val Val Ala Leu Gly Asn Ala Phe Asn Gly Ala Leu Pro Gly Thr	
85 90 95	
Val Gln Ser Ala Gln Ser Phe Phe Ser His Met Lys Ala Ala Ser Gln	
100 105 110	
Lys Thr Gln Glu Gly Asp Glu Gly Leu Thr Ala Asp Leu Cys Val Ser	
115 120 125	
His Lys Arg Arg Ala Ala Ala Val Cys Ser Ile Ile Gly Gly Ile	
130 135 140	
Thr Tyr Leu Ala Thr Phe Gly Ala Ile Arg Pro Ile Leu Phe Val Asn	
145 150 155 160	
Lys Met Leu Ala Lys Pro Phe Leu Ser Ser Gln Thr Lys Ala Asn Met	
165 170 175	
Gly Ser Ser Val Ser Tyr Ile Met Ala Ala Asn His Ala Ala Ser Val	
180 185 190	
Val Gly Ala Gly Leu Ala Ile Ser Ala Xaa Arg Ala Asp Cys Glu Ala	
195 200 205	
Arg Cys Ala Arg Ile Ala Arg Glu Glu Ser Leu Leu Glu Val Pro Gly	

210	215	220														
Glu	Glu	Asn	Ala	Cys	Glu	Lys	Lys	Val	Ala	Gly	Glu	Lys	Ala	Lys	Thr	
225					230						235				240	
- - - - -	Phe	Thr	Arg	Ile	Lys	Tyr	Ala	Leu	Leu	Thr	-Met	Leu	Glu	Lys	Phe	Leu
												245	250		255	
	Glu	Cys	Val	Ala	Asp	Val	Phe	Lys	Leu	Val	Pro	Leu	Pro	Ile	Thr	Met
											260	265		270		
	Gly	Ile	Arg	Ala	Ile	Val	Ala	Ala	Gly	Cys	Thr	Phe	Thr	Ser	Ala	Ile
										275	280		285			
	Ile	Gly	Leu	Cys	Thr	Phe	Cys	Ala	Arg	Ala						
								290		295						

<210> 265

<211> 897

<212> DNA

<213> Chlamydia

<220>

<221> misc_feature

<222> (1)...(897)

<223> n = A,T,C or G

<400> 265

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acacagccca	acaataaaat	ggcaagggtt	gtaaaataaga	cgaaggaaat	ggataagact	120
attaagggtt	ccaagtctgc	tgccgaattt	accgcaaata	ttttggaaaca	agctggaggc	180
gccccgtctt	ccgcacacat	tacagctttc	caagtgttca	aaggatttagg	ggatgcgaga	240
actgttgtcg	ctttagggaa	tgccttaac	ggagcggtgc	caggaacagt	tcaaagtgcg	300
caaagcttct	tctctcacat	gaaagctgt	agtcaaaaaa	cgcaagaagg	ggatgagggg	360
ctcacagcag	atctttgtgt	gtctcataaag	cgcaagacgg	ctgcggctgt	ctgtagcatc	420
atcgaggaa	ttacacct	cgcgacatc	ggagctatcc	gtccgattct	gttgtcaac	480
aaaatgtctgg	caaaaccgtt	tctttcttcc	caaactaaag	caaataatggg	atcttctgtt	540
agctatatta	tggcgctaa	ccatgcagcg	tctgtggtgg	gtgctggact	cgctatcagt	600
gcnnaaagag	cagattgcga	agcccgttc	gctcgtattt	cgagagaaga	gtcggtactc	660
gaagtgccgg	gagagaaaaa	tgcttgcgag	aagaaagtgc	ctggagagaa	agccaagacg	720
ttcacgcgc	tcaagtatgc	actcctact	atgctcgaga	agtttttgg	atgcgttgc	780
gacgtttca	aattggtgcc	gctgcctatt	acaatggta	ttcgtgcgat	tgtggctgt	840
ggatgtacgt	tcacttctgc	aattatttgg	tttgtgcactt	tctgcgcag	agcataaa	897

<210> 266

<211> 298

<212> PRT

<213> Chlamydia

<220>

<221> VARIANT

<222> (1)...(298)

<223> Xaa = Any Amino Acid

<400> 266

Met	Ala	Ser	Ile	Cys	Gly	Arg	Leu	Gly	Ser	Gly	Thr	Gly	Asn	Ala	Leu
1				5			10				15				
Lys	Ala	Phe	Phe	Thr	Gln	Pro	Asn	Asn	Lys	Met	Ala	Arg	Val	Val	Asn
							20			25		30			
Lys	Thr	Lys	Gly	Met	Asp	Lys	Thr	Ile	Lys	Val	Ala	Lys	Ser	Ala	Ala
							35			40		45			
Glu	Leu	Thr	Ala	Asn	Ile	Leu	Glu	Gln	Ala	Gly	Gly	Ala	Gly	Ser	Ser

50	55	60
Ala His Ile Thr Ala Ser Gln Val Ser Lys Gly Leu Gly Asp Ala Arg		
65	70	75
- - - - - Thr Val Val Ala Leu Gly Asn-Ala Phe Asn Gly Ala Leu Pro Gly Thr		80
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Val Gln Ser Ala Gln Ser Phe Phe Ser His Met Lys Ala Ala Ser Gln		
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Lys Thr Gln Glu Gly Asp Glu Gly Leu Thr Ala Asp Leu Cys Val Ser		
115	120	125
His Lys Arg Arg Ala Ala Ala Val Cys Ser Ile Ile Gly Gly Ile		
130	135	140
Thr Tyr Leu Ala Thr Phe Gly Ala Ile Arg Pro Ile Leu Phe Val Asn		
145	150	155
Lys Met Leu Ala Lys Pro Phe Leu Ser Ser Gln Thr Lys Ala Asn Met		160
165	170	175
Gly Ser Ser Val Ser Tyr Ile Met Ala Ala Asn His Ala Ala Ser Val		
180	185	190
Val Gly Ala Gly Leu Ala Ile Ser Ala Xaa Arg Ala Asp Cys Glu Ala		
195	200	205
Arg Cys Ala Arg Ile Ala Arg Glu Glu Ser Leu Leu Glu Val Pro Gly		
210	215	220
Glu Glu Asn Ala Cys Glu Lys Lys Val Ala Gly Glu Lys Ala Lys Thr		
225	230	235
Phe Thr Arg Ile Lys Tyr Ala Leu Leu Thr Met Leu Glu Lys Phe Leu		240
245	250	255
Glu Cys Val Ala Asp Val Phe Lys Leu Val Pro Leu Pro Ile Thr Met		
260	265	270
Gly Ile Arg Ala Ile Val Ala Ala Gly Cys Thr Phe Thr Ser Ala Ile		
275	280	285
Ile Gly Leu Cys Thr Phe Cys Ala Arg Ala		
290	295	

<210> 267

<211> 680

<212> DNA

<213> Chlamydia

<400> 267

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tgagaaaaga agatgttatac ggcgcgttga aatatttgcgat tcgTTTGCAG atgggcgtatg	600
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<210> 268

<211> 359

<212> DNA

<213> Chlamydia

<400> 268

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ctcagactt							ttggagagct	tgtggaaagat	gttgcgatc			219
<210> 271												
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<213> Chlamydia												
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tggatcgat							agcttgg	ccagagaact	gacaagtccc	gctacatt	gagaatgtaa	180
cctgttctcc							atagatagct	cctcacta	cacctaata	agttgg	gctggagat	240
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tcagattaga							aatattaca	gttttagcat	gtaagc	accttctt	ccaaacaaggt	420
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ggatagttt ttttttattt ataacacatc agaaaaacat ggtggggaa gccttggta	480
ccaaagaaaat ctctcagact tacaccttt gatgtggaaa caattccagg aatcacgc当地	540
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<212> DNA	
<213> Chlamydia	
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<212> DNA	
<213> Chlamydia	
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ttaaaacttg ttctttaaa ttaattctag tatttaagta ttcaacatag cccatttata	180
attgaattgg ataattttgc cttataattt cacattttt ttctgttattt ttaggttctt	240
aaccgttccg cttttttctt aaaaattatg ttcttcttattt attcattttt taagccactt	300
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<211> 357	
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tgtatggaaaac ggaaacatcc ttccggcaga aacttttagca ctattaaaga atcggttacgg	180
gttagataag ctttattca cccagttatct tatcttattt aatgtctgc taacactaga	240
tttcggggaa tctcttatct acaaagatcg aatctcagc attattgttcc ccgtcttcc	300
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<211> 505
<212> DNA
<213> Chlamydia

<400> 277
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cgagacacg ctgggttgtg gccacaagaa tagtattcta gttctcggt tgctaatga 240
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<210> 278
<211> 407
<212> DNA
<213> Chlamydia

<400> 278
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cttggctct gctaactgga gcgggtctgg tatgattaaa aactttgaag acctattcat 180
ccttcgcccc attacagaga cacagttca ggcctttatg gacgtctgg ctcttctaga 240
aacaatatgc tcctatctgt cccagagag cgtgcttacg gcccctactc cttcaagtag 300
acctactcaa caagatacag attctgtatga cgaacaaccg agtaccagcc agcaagctat 360
ccgtatgaga aataggatt agggaaacaa aacgacagca aaccaca 407

<210> 279
<211> 351
<212> DNA
<213> Chlamydia

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ttcttaatga acagctgttc ctctagtcga gaaatcaac ccgctgtatga gagcatctat 300
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<210> 280
<211> 522
<212> DNA
<213> Chlamydia

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aatgcttgct tcttacttcg catcagagaa aaccgctgtt atggagttc tagtgaatgg 480

catggtagca gatttaaaat cgagggccc ttccattcct cc	522
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<211> 577	
<212> DNA	
<213> Chlamydia	
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tgtatgtaca gtccaagata tttagacaa aatcacaaca gacccttctc taggtttgtt	180
gaaagctttt aacaacttcc caatcactaa taaaattcaa tgcaacgggt tattcactcc	240
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aagctctggg agcatgttct tagtctcagc agatattatt gcatcaagaa tggaggcg	360
cgttgttcta gctttgtac gagaaggta ttctaaagccc tacgcgatta gttatggata	420
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<210> 282	
<211> 607	
<212> DNA	
<213> Chlamydia	
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<212> DNA	
<213> Chlamydia	
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<210> 284

<211> 407

<212> DNA

<213> Chlamydia

<400> 284

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acctactcaa	caagatacag	attctgatga	cgaacaaccg	agtaccagcc	agcaagctat	360
ccgtatgaga	aataggatt	agggaaacaa	aacgacagca	aaccaca		407

<210> 285

<211> 802

<212> DNA

<213> Chlamydia

<400> 285

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<210> 286

<211> 588

<212> DNA

<213> Chlamydia

<400> 286

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tgtttaaaag	atggcgatt	atgagctacc	tcatcagaga	ctatttaaa	tagatcattt	540
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<210> 287
<211> 489
<212> DNA
<213> Chlamydia

<220>
<221> misc_feature
<222> (1)...(489)
<223> n = A,T,C or G

<400> 287
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aagaagagaa gcttggagat ctttatgtgt tcttactcgg cctcatatgt gtgtatataac 300
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gaaagaacag attcgatcat tattggctgc agatcatcca gaagtgcagg tagctacttt 420
acagatcatt ctgagaggag gtagagtatt ccggcatct tctataatgg aatcggttct 480
cgtgccgnt 489

<210> 288
<211> 191
<212> DNA
<213> Chlamydia

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gattctctca aagatgattt ctaagtgcag cagtcctaaa aatccacagc ggaaccctaa 180
tccgagagag t 191

<210> 289
<211> 515
<212> DNA
<213> Chlamydia

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ctgaggaaga agggaaagttt ttagcggacc gttatgtgt aggtacttgtt cccaaatgtg 480
ggtttgatcg agctcgagga gatgagtgtc agcag 515

<210> 290
<211> 522
<212> DNA
<213> Chlamydia

<400> 290
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tttgatgtaa attagcgcaa ttagaggggg atgaggttac ttggaaatat aaggagcgaa 180

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cgcacttaag	tttcccatca	gagggagcta	tttgaatttag	ataatcaaga	gctagatcct	360
ttattgtggg	atcagaaaat	ttacttgtga	-gcgcatcgag	aatttcgtca	gaagaagaat	420
catcatcgaa	cgaatttttc	aatcctcgaa	aatcttctcc	agagacttcg	gaaagatctt	480
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<210> 291

<211> 1002

<212> DNA

<213> Chlamydia

<400> 291

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gccaaagaac	cagcggctgt	cagctcctt	gctcagaaag	ggattttatttgc	tattcaacaa	120
ttttttacaa	accctggaa	taagttttagca	aagttttagtgc	gggcaacaaa	aagtttagat	180
aatatgttta	agctaagtaa	ggcggttttct	gactgtgtcg	taggatcgct	ggaagaggcg	240
ggatgcacag	gggacgcatt	gacccccc	agaaaaacgccc	agggtatgtt	aaaaacaact	300
cgagaagtttgc	ttgcctttagc	taatgtgtc	aatggagctg	ttccatctat	cgttaactcg	360
actcagaggt	gttaccaata	cacacgtcaa	gccttcgagt	taggaagcaa	gacaaaagaaa	420
agaaaaaacgc	ctggggagta	tagtaaaatgc	ctattaactc	gaggtgatttgc	cctattggca	480
gcttccaggg	aagcttgc	ggcagtcgtt	gcaacgactt	actcagcgac	attcgggttt	540
ttacgtccgt	taatgttaat	caataaaactc	acagcaaaac	cattcttaga	caaagcgact	600
gtaggcaatt	ttggcacggc	tggtgctgga	attatgacca	ttaatcatat	ggcaggagtt	660
gctgggtctgt	ttggcgaat	cgcattagaa	caaaagctgt	tcaaacgtgc	gaaggaatcc	720
ctataacaatg	agagatgtgc	cttagaaaaac	caacaatctc	agttgagtttgc	ggacgtgatt	780
ctaagcgcgg	aaagggcatt	acgtaaagaa	cacgttgcta	ctctaaaaag	aatgtttta	840
actcttcttg	aaaaagctt	agagttggta	gtggatggag	tcaaactcat	tcctttaccg	900
attacagttgg	cttgctccgc	tgcaatttct	ggagccttgc	cgccagcatc	cgcaggaatt	960
ggcttatata	gcatatggca	gaaaacaaag	tctggcaat	aa		1002

<210> 292

<211> 333

<212> PRT

<213> Chlamydia

<400> 292

Met	Ala	Thr	Asn	Ala	Ile	Arg	Ser	Ala	Gly	Ser	Ala	Ala	Ser	Lys	Met
1				5				10					15		
Leu	Leu	Pro	Val	Ala	Lys	Glu	Pro	Ala	Ala	Val	Ser	Ser	Phe	Ala	Gln
					20				25				30		
Lys	Gly	Ile	Tyr	Cys	Ile	Gln	Gln	Phe	Phe	Thr	Asn	Pro	Gly	Asn	Lys
					35			40				45			
Leu	Ala	Lys	Phe	Val	Gly	Ala	Thr	Lys	Ser	Leu	Asp	Lys	Cys	Phe	Lys
					50			55			60				
Leu	Ser	Lys	Ala	Val	Ser	Asp	Cys	Val	Val	Gly	Ser	Leu	Glu	Glu	Ala
					65			70		75			80		
Gly	Cys	Thr	Gly	Asp	Ala	Leu	Thr	Ser	Ala	Arg	Asn	Ala	Gln	Gly	Met
					85			90				95			
Leu	Lys	Thr	Thr	Arg	Glu	Val	Val	Ala	Leu	Ala	Asn	Val	Leu	Asn	Gly
					100			105				110			
Ala	Val	Pro	Ser	Ile	Val	Asn	Ser	Thr	Gln	Arg	Cys	Tyr	Gln	Tyr	Thr
					115			120				125			
Arg	Gln	Ala	Phe	Glu	Leu	Gly	Ser	Lys	Thr	Lys	Glu	Arg	Lys	Thr	Pro
					130			135			140				
Gly	Glu	Tyr	Ser	Lys	Met	Leu	Leu	Thr	Arg	Gly	Asp	Tyr	Leu	Leu	Ala
					145			150			155			160	

Ala	Ser	Arg	Glu	Ala	Cys	Thr	Ala	Val	Gly	Ala	Thr	Thr	Tyr	Ser	Ala
				165					170					175	
Thr	Phe	Gly	Val	Leu	Arg	Pro	Leu	Met	Leu	Ile	Asn	Lys	Leu	Thr	Ala
			180	.	.	.		185	.	.	.		190		
Lys	Pro	Phe	Leu	Asp	Lys	Ala	Thr	Val	Gly	Asn	Phe	Gly	Thr	Ala	Val
				195				200				205			
Ala	Gly	Ile	Met	Thr	Ile	Asn	His	Met	Ala	Gly	Val	Ala	Gly	Ala	Val
			210			215				220					
Gly	Gly	Ile	Ala	Leu	Glu	Gln	Lys	Leu	Phe	Lys	Arg	Ala	Lys	Glu	Ser
			225		230				235				240		
Leu	Tyr	Asn	Glu	Arg	Cys	Ala	Leu	Glu	Asn	Gln	Gln	Ser	Gln	Leu	Ser
				245				250				255			
Gly	Asp	Val	Ile	Leu	Ser	Ala	Glu	Arg	Ala	Leu	Arg	Lys	Glu	His	Val
			260			265				270					
Ala	Thr	Leu	Lys	Arg	Asn	Val	Leu	Thr	Leu	Leu	Glu	Lys	Ala	Leu	Glu
			275			280				285					
Leu	Val	Val	Asp	Gly	Val	Lys	Leu	Ile	Pro	Leu	Pro	Ile	Thr	Val	Ala
			290			295				300					
Cys	Ser	Ala	Ala	Ile	Ser	Gly	Ala	Leu	Thr	Ala	Ala	Ser	Ala	Gly	Ile
			305		310				315				320		
Gly	Leu	Tyr	Ser	Ile	Trp	Gln	Lys	Thr	Lys	Ser	Gly	Lys			
				325				330							

<210> 293

<211> 7

<212> DNA

<212> DNA

<400> 293

tqcaatc

<210> 294

<211> 196

<212> PRT

<213> Chlamydia

<400> 294

Ala Val Val Cys Gly Glu Glu Lys Glu Ile Ser Leu Ala Asp Phe Arg
20 25 30

Gly Lys Tyr Val Val Leu Phe Phe Tyr Pro Lys Asp Phe Thr Tyr Val
35 40 45

Cys Pro Thr Glu Leu His Ala Phe Gln Asp Arg Leu Val Asp Phe Glu
50 55 60

Glu His Gly Ala Val Val Leu Gly Cys Ser Val Asp Asp Ile Glu Thr
65 70 75 80

His Ser Arg Trp Leu Thr Val Ala Arg Asp Ala Gly Gly Ile Glu Gly
85 90 95

Thr Glu Tyr Pro Leu Leu Ala Asp Pro Ser Phe Lys Ile Ser Glu Ala
100 105 110

Phe Gly Val Leu Asn Pro Glu Gly Ser Leu Ala Leu Arg Ala Thr Phe
 115 120 125

Leu Ile Asp Lys His Gly Val Ile Arg His Ala Val Ile Asn Asp Leu
 130 135 140

Pro Leu Gly Arg Ser Ile Asp Glu Glu Leu Arg Ile Leu Asp Ser Leu
 145 150 155 160

Ile Phe Phe Glu Asn His Gly Met Val Cys Pro Ala Asn Trp Arg Ser
 165 170 175

Gly Glu Arg Gly Met Val Pro Ser Glu Glu Gly Leu Lys Glu Tyr Phe
 180 185 190

Gln Thr Met Asp
 195

<210> 295
 <211> 181
 <212> PRT
 <213> Chlamydia

<400> 295
 Lys Gly Gly Lys Met Ser Thr Thr Ile Ser Gly Asp Ala Ser Ser Leu
 5 10 15

Pro Leu Pro Thr Ala Ser Cys Val Glu Thr Lys Ser Thr Ser Ser Ser
 20 25 30

Thr Lys Gly Asn Thr Cys Ser Lys Ile Leu Asp Ile Ala Leu Ala Ile
 35 40 45

Val Gly Ala Leu Val Val Ala Gly Val Leu Ala Leu Val Leu Cys
 50 55 60

Ala Ser Asn Val Ile Phe Thr Val Ile Gly Ile Pro Ala Leu Ile Ile
 65 70 75 80

Gly Ser Ala Cys Val Gly Ala Gly Ile Ser Arg Leu Met Tyr Arg Ser
 85 90 95

Ser Tyr Ala Ser Leu Glu Ala Lys Asn Val Leu Ala Glu Gln Arg Leu
 100 105 110

Arg Asn Leu Ser Glu Glu Lys Asp Ala Leu Ala Ser Val Ser Phe Ile
 115 120 125

Asn Lys Met Phe Leu Arg Gly Leu Thr Asp Asp Leu Gln Ala Leu Glu
 130 135 140

Ala Lys Val Met Glu Phe Glu Ile Asp Cys Leu Asp Arg Leu Glu Lys
 145 150 155 160

Asn Glu Gln Ala Leu Leu Ser Asp Val Arg Leu Val Leu Ser Ser Tyr

165

170

175

Thr Arg Trp Leu Asp
180

<210> 296

<211> 124

<212> PRT

<213> Chlamydia

<400> 296

Ile	Tyr	Glu	Val	Met	Asn	Met	Asp	Leu	Glu	Thr	Arg	Arg	Ser	Phe	Ala
				5				10					15		

Val	Gln	Gln	Gly	His	Tyr	Gln	Asp	Pro	Arg	Ala	Ser	Asp	Tyr	Asp	Leu
					20			25				30			

Pro	Arg	Ala	Ser	Asp	Tyr	Asp	Leu	Pro	Arg	Ser	Pro	Tyr	Pro	Thr	Pro
				35			40				45				

Pro	Leu	Pro	Ser	Arg	Tyr	Gln	Leu	Gln	Asn	Met	Asp	Val	Glu	Ala	Gly
	50				55				60						

Phe	Arg	Glu	Ala	Val	Tyr	Ala	Ser	Phe	Val	Ala	Gly	Met	Tyr	Asn	Tyr
	65				70			75				80			

Val	Val	Thr	Gln	Pro	Gln	Glu	Arg	Ile	Pro	Asn	Ser	Gln	Gln	Val	Glu
				85				90				95			

Gly	Ile	Leu	Arg	Asp	Met	Leu	Thr	Asn	Gly	Ser	Gln	Thr	Phe	Ser	Asn
	100					105						110			

Leu	Met	Gln	Arg	Trp	Asp	Arg	Glu	Val	Asp	Arg	Glu				
	115					120									

<210> 297

<211> 488

<212> PRT

<213> Chlamydia

<400> 297

Lys	Gly	Ser	Leu	Pro	Ile	Leu	Gly	Pro	Phe	Leu	Asn	Gly	Lys	Met	Gly
				5				10			15				

Phe	Trp	Arg	Thr	Ser	Ile	Met	Lys	Met	Asn	Arg	Ile	Trp	Leu	Leu	Leu
				20			25				30				

Leu	Thr	Phe	Ser	Ser	Ala	Ile	His	Ser	Pro	Val	Arg	Gly	Glu	Ser	Leu
				35			40				45				

Val	Cys	Lys	Asn	Ala	Leu	Gln	Asp	Leu	Ser	Phe	Leu	Glu	His	Leu	Leu
				50			55			60					

Gln	Val	Lys	Tyr	Ala	Pro	Lys	Thr	Trp	Lys	Glu	Gln	Tyr	Leu	Gly	Trp
	65				70			75			80				

Asp Leu Val Gln Ser Ser Val Ser Ala Gln Gln Lys Leu Arg Thr Gln
 85 90 95
 Glu Asn Pro Ser Thr Ser Phe Cys Gln Gln Val Leu Ala Asp Phe Ile
 100 105 110
 Gly Gly Leu Asn Asp Phe His Ala Gly Val Thr Phe Phe Ala Ile Glu
 115 120 125
 Ser Ala Tyr Leu Pro Tyr Thr Val Gln Lys Ser Ser Asp Gly Arg Phe
 130 135 140
 Tyr Phe Val Asp Ile Met Thr Phe Ser Ser Glu Ile Arg Val Gly Asp
 145 150 155 160
 Glu Leu Leu Glu Val Asp Gly Ala Pro Val Gln Asp Val Leu Ala Thr
 165 170 175
 Leu Tyr Gly Ser Asn His Lys Gly Thr Ala Ala Glu Glu Ser Ala Ala
 180 185 190
 Leu Arg Thr Leu Phe Ser Arg Met Ala Ser Leu Gly His Lys Val Pro
 195 200 205
 Ser Gly Arg Thr Thr Leu Lys Ile Arg Arg Pro Phe Gly Thr Thr Arg
 210 215 220
 Glu Val Arg Val Lys Trp Arg Tyr Val Pro Glu Gly Val Gly Asp Leu
 225 230 235 240
 Ala Thr Ile Ala Pro Ser Ile Arg Ala Pro Gln Leu Gln Lys Ser Met
 245 250 255
 Arg Ser Phe Phe Pro Lys Lys Asp Asp Ala Phe His Arg Ser Ser Ser
 260 265 270
 Leu Phe Tyr Ser Pro Met Val Pro His Phe Trp Ala Glu Leu Arg Asn
 275 280 285
 His Tyr Ala Thr Ser Gly Leu Lys Ser Gly Tyr Asn Ile Gly Ser Thr
 290 295 300
 Asp Gly Phe Leu Pro Val Ile Gly Pro Val Ile Trp Glu Ser Glu Gly
 305 310 315 320
 Leu Phe Arg Ala Tyr Ile Ser Ser Val Thr Asp Gly Asp Gly Lys Ser
 325 330 335
 His Lys Val Gly Phe Leu Arg Ile Pro Thr Tyr Ser Trp Gln Asp Met
 340 345 350
 Glu Asp Phe Asp Pro Ser Gly Pro Pro Pro Trp Glu Glu Phe Ala Lys
 355 360 365
 Ile Ile Gln Val Phe Ser Ser Asn Thr Glu Ala Leu Ile Ile Asp Gln
 370 375 380

Thr Asn Asn Pro Gly Gly Ser Val Leu Tyr Leu Tyr Ala Leu Leu Ser
 385 390 395 400
 Met Leu Thr Asp Arg Pro Leu Glu Leu Pro Lys His Arg Met Ile Leu
 405 410 415
 Thr Gln Asp Glu Val Val Asp Ala Leu Asp Trp Leu Thr Leu Leu Glu
 420 425 430
 Asn Val Asp Thr Asn Val Glu Ser Arg Leu Ala Leu Gly Asp Asn Met
 435 440 445
 Glu Gly Tyr Thr Val Asp Leu Gln Val Ala Glu Tyr Leu Lys Ser Phe
 450 455 460
 Gly Arg Gln Val Leu Asn Cys Trp Ser Lys Gly Asp Ile Glu Leu Ser
 465 470 475 480
 Thr Pro Ile Pro Leu Phe Gly Phe
 485

<210> 298
 <211> 140
 <212> PRT
 <213> Chlamydia

<400> 298
 Arg Ile Asp Ile Ser Ser Val Thr Phe Phe Ile Gly Ile Leu Leu Ala
 5 10 15
 Val Asn Ala Leu Thr Tyr Ser His Val Leu Arg Asp Leu Ser Val Ser
 20 25 30
 Met Asp Ala Leu Phe Ser Arg Asn Thr Leu Ala Val Leu Leu Gly Leu
 35 40 45
 Val Ser Ser Val Leu Asp Asn Val Pro Leu Val Ala Ala Thr Ile Gly
 50 55 60
 Met Tyr Asp Leu Pro Met Asn Asp Pro Leu Trp Lys Leu Ile Ala Tyr
 65 70 75 80
 Thr Ala Gly Thr Gly Gly Ser Ile Leu Ile Ile Gly Ser Ala Ala Gly
 85 90 95
 Val Ala Tyr Met Gly Met Glu Lys Val Ser Phe Gly Trp Tyr Val Lys
 100 105 110
 His Ala Ser Trp Ile Ala Leu Ala Ser Tyr Phe Gly Gly Leu Ala Val
 115 120 125
 Tyr Phe Leu Met Glu Asn Cys Val Asn Leu Phe Val
 130 135 140

<210> 299
<211> 361
<212> PRT
<213> Chlamydia

<400> 299
His Gln Glu Ile Ala Asp Ser Pro Leu Val Lys Lys Ala Glu Glu Gln
5 10 15
Ile Asn Gln Ala Gln Gln Asp Ile Gln Thr Ile Thr Pro Ser Gly Leu
20 25 30
Asp Ile Pro Ile Val Gly Pro Ser Gly Ser Ala Ala Ser Ala Gly Ser
35 40 45
Ala Ala Gly Ala Leu Lys Ser Ser Asn Asn Ser Gly Arg Ile Ser Leu
50 55 60
Leu Leu Asp Asp Val Asp Asn Glu Met Ala Ala Ile Ala Met Gln Gly
65 70 75 80
Phe Arg Ser Met Ile Glu Gln Phe Asn Val Asn Asn Pro Ala Thr Ala
85 90 95
Lys Glu Leu Gln Ala Met Glu Ala Gln Leu Thr Ala Met Ser Asp Gln
100 105 110
Leu Val Gly Ala Asp Gly Glu Leu Pro Ala Glu Ile Gln Ala Ile Lys
115 120 125
Asp Ala Leu Ala Gln Ala Leu Lys Gln Pro Ser Ala Asp Gly Leu Ala
130 135 140
Thr Ala Met Gly Gln Val Ala Phe Ala Ala Lys Val Gly Gly Gly
145 150 155 160
Ser Ala Gly Thr Ala Gly Thr Val Gln Met Asn Val Lys Gln Leu Tyr
165 170 175
Lys Thr Ala Phe Ser Ser Thr Ser Ser Ser Tyr Ala Ala Leu
180 185 190
Ser Asp Gly Tyr Ser Ala Tyr Lys Thr Leu Asn Ser Leu Tyr Ser Glu
195 200 205
Ser Arg Ser Gly Val Gln Ser Ala Ile Ser Gln Thr Ala Asn Pro Ala
210 215 220
Leu Ser Arg Ser Val Ser Arg Ser Gly Ile Glu Ser Gln Gly Arg Ser
225 230 235 240
Ala Asp Ala Ser Gln Arg Ala Ala Glu Thr Ile Val Arg Asp Ser Gln
245 250 255
Thr Leu Gly Asp Val Tyr Ser Arg Leu Gln Val Leu Asp Ser Leu Met
260 265 270

Ser Thr Ile Val Ser Asn Pro Gln Ala Asn Gln Glu Glu Ile Met Gln
275 280 285

Lys Leu Thr Ala Ser Ile Ser Lys Ala Pro Gln Phe Gly Tyr Pro Ala
290 295 300

Val Gln Asn Ser Val Asp Ser Leu Gln Lys Phe Ala Ala Gln Leu Glu
305 310 315 320

Arg Glu Phe Val Asp Gly Glu Arg Ser Leu Ala Glu Ser Gln Glu Asn
325 330 335

Ala Phe Arg Lys Gln Pro Ala Phe Ile Gln Gln Val Leu Val Asn Ile
340 345 350

Ala Ser Leu Phe Ser Gly Tyr Leu Ser
355 360

<210> 300

<211> 207

<212> PRT

<213> Chlamydia

<400> 300

Ser Ser Lys Ile Val Ser Leu Cys Glu Gly Ala Val Ala Asp Ala Arg
5 10 15

Met Cys Lys Ala Glu Leu Ile Lys Lys Glu Ala Asp Ala Tyr Leu Phe
20 25 30

Cys Glu Lys Ser Gly Ile Tyr Leu Thr Lys Lys Glu Gly Ile Leu Ile
 35 40 45

Pro Ser Ala Gly Ile Asp Glu Ser Asn Thr Asp Gln Pro Phe Val Leu
50 55 60

Tyr Pro Lys Asp Ile Leu Gly Ser Cys Asn Arg Ile Gly Glu Trp Leu
 65 70 75 80

Arg Asn Tyr Phe Arg Val Lys Glu Leu Gly Val Ile Ile Thr Asp Ser
85 90 95

His Thr Thr Pro Met Arg Arg Gly Val Leu Gly Ile Gly Leu Cys Trp
100 105 110

Tyr Gly Phe Ser Pro Leu His Asn Tyr Ile Gly Ser Leu Asp Cys Phe
115 120 125

Gly Arg Pro Leu Gln Met Thr Gln Ser Asn Leu Val Asp Ala Leu Ala
130 135 140

Val	Ala	Ala	Val	Val	Cys	Met	Gly	Glu	Gly	Asn	Glu	Gln	Thr	Pro	Leu
145					150					155					160

Ala Val Ile Glu Gln Ala Pro Asn Met Val Tyr His Ser Tyr Pro Thr
165 170 175

Ser Arg Glu Glu Tyr Cys Ser Leu Arg Ile Asp Glu Thr Glu Asp Leu
 180 185 190

Tyr Gly Pro Phe Leu Gln Ala Val Thr Trp Ser Gln Glu Lys Lys
 195 200 205

<210> 301

<211> 183

<212> PRT

<213> Chlamydia

<400> 301

Ile Pro Pro Ala Pro Arg Gly His Pro Gln Ile Glu Val Thr Phe Asp
 5 10 15

Ile Asp Ala Asn Gly Ile Leu His Val Ser Ala Lys Asp Ala Ala Ser
 20 25 30

Gly Arg Glu Gln Lys Ile Arg Ile Glu Ala Ser Ser Gly Leu Lys Glu
 35 40 45

Asp Glu Ile Gln Gln Met Ile Arg Asp Ala Glu Leu His Lys Glu Glu
 50 55 60

Asp Lys Gln Arg Lys Glu Ala Ser Asp Val Lys Asn Glu Ala Asp Gly
 65 70 75 80

Met Ile Phe Arg Ala Glu Lys Ala Val Lys Asp Tyr His Asp Lys Ile
 85 90 95

Pro Ala Glu Leu Val Lys Glu Ile Glu Glu His Ile Glu Lys Val Arg
 100 105 110

Gln Ala Ile Lys Glu Asp Ala Ser Thr Thr Ala Ile Lys Ala Ala Ser
 115 120 125

Asp Glu Leu Ser Thr Arg Met Gln Lys Ile Gly Glu Ala Met Gln Ala
 130 135 140

Gln Ser Ala Ser Ala Ala Ser Ser Ala Ala Asn Ala Gln Gly Gly
 145 150 155 160

Pro Asn Ile Asn Ser Glu Asp Leu Lys Lys His Ser Phe Ser Thr Arg
 165 170 175

Pro Pro Ala Gly Gly Ser Ala
 180

<210> 302

<211> 232

<212> PRT

<213> Chlamydia

<400> 302

Met	Thr	Lys	His	Gly	Lys	Arg	Ile	Arg	Gly	Ile	Gln	Glu	Thr	Tyr	Asp
					5					10					15
Leu	Ala	Lys	Ser	Tyr	Ser	Leu	Gly	Glu	Ala	Ile	Asp	Ile	Leu	Lys	Gln
					20					25					30
Cys	Pro	Thr	Val	Arg	Phe	Asp	Gln	Thr	Val	Asp	Val	Ser	Val	Lys	Leu
						35				40					45
Gly	Ile	Asp	Pro	Arg	Lys	Ser	Asp	Gln	Gln	Ile	Arg	Gly	Ser	Val	Ser
						50				55					60
Leu	Pro	His	Gly	Thr	Gly	Lys	Val	Leu	Arg	Ile	Leu	Val	Phe	Ala	Ala
						65				70					80
Gly	Asp	Lys	Ala	Ala	Glu	Ala	Ile	Glu	Ala	Gly	Ala	Asp	Phe	Val	Gly
						85				90					95
Ser	Asp	Asp	Leu	Val	Glu	Lys	Ile	Lys	Gly	Gly	Trp	Val	Asp	Phe	Asp
						100				105					110
Val	Ala	Val	Ala	Thr	Pro	Asp	Met	Met	Arg	Glu	Val	Gly	Lys	Leu	Gly
							115			120					125
Lys	Val	Leu	Gly	Pro	Arg	Asn	Leu	Met	Pro	Thr	Pro	Lys	Ala	Gly	Thr
						130				135					140
Val	Thr	Thr	Asp	Val	Val	Lys	Thr	Ile	Ala	Glu	Leu	Arg	Lys	Gly	Lys
						145				150					160
Ile	Glu	Phe	Lys	Ala	Asp	Arg	Ala	Gly	Val	Cys	Asn	Val	Gly	Val	Ala
						165				170					175
Lys	Leu	Ser	Phe	Asp	Ser	Ala	Gln	Ile	Lys	Glu	Asn	Val	Glu	Ala	Leu
							180			185					190
Cys	Ala	Ala	Leu	Val	Lys	Ala	Lys	Pro	Ala	Thr	Ala	Lys	Gly	Gln	Tyr
							195			200					205
Leu	Val	Asn	Phe	Thr	Ile	Ser	Ser	Thr	Met	Gly	Pro	Gly	Val	Thr	Val
							210			215					220
Asp	Thr	Arg	Glu	Leu	Ile	Ala	Leu								
						225				230					

<210> 303
<211> 238
<212> PRT
<213> chlamydia

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<400> 303
Ile Asn Ser Lys Leu Glu Thr Lys Asn Leu Ile Tyr Leu Lys Leu Lys
      5           10          15

Ile Lys Lys Ser Phe Lys Met Gly Asn Ser Gly Phe Tyr Leu Tyr Asn
      20          25          30

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Thr Gln Asn Cys Val Phe Ala Asp Asn Ile Lys Val Gly Gln Met Thr
 35 40 45

Glu Pro Leu Lys Asp Gln Gln Ile Ile Leu Gly Thr Thr Ser Thr Pro
 50 55 60

Val Ala Ala Lys Met Thr Ala Ser Asp Gly Ile Ser Leu Thr Val Ser
 65 70 75 80

Asn Asn Pro Ser Thr Asn Ala Ser Ile Thr Ile Gly Leu Asp Ala Glu
 85 90 95

Lys Ala Tyr Gln Leu Ile Leu Glu Lys Leu Gly Asp Gln Ile Leu Gly
 100 105 110

Gly Ile Ala Asp Thr Ile Val Asp Ser Thr Val Gln Asp Ile Leu Asp
 115 120 125

Lys Ile Thr Thr Asp Pro Ser Leu Gly Leu Leu Lys Ala Phe Asn Asn
 130 135 140

Phe Pro Ile Thr Asn Lys Ile Gln Cys Asn Gly Leu Phe Thr Pro Arg
 145 150 155 160

Asn Ile Glu Thr Leu Leu Gly Gly Thr Glu Ile Gly Lys Phe Thr Val
 165 170 175

Thr Pro Lys Ser Ser Gly Ser Met Phe Leu Val Ser Ala Asp Ile Ile
 180 185 190

Ala Ser Arg Met Glu Gly Gly Val Val Leu Ala Leu Val Arg Glu Gly
 195 200 205

Asp Ser Lys Pro Tyr Ala Ile Ser Tyr Gly Tyr Ser Ser Gly Val Pro
 210 215 220

Asn Leu Cys Ser Leu Arg Thr Arg Ile Ile Asn Thr Gly Leu
 225 230 235

<210> 304
 <211> 54
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> PCR primer

<400> 304
 gatatacata tgcacccatca tcaccatcac atgagtcaaa aaaataaaaaa ctct 54

<210> 305
 <211> 77
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Retroviral vectors pBIB-KS1 modified to contain
Kosak translation initiation site and stop codons.

<400> 305

gatctgccgc caccatggaa ttcgatatcg gatccctgca gaagctttag ctcgagcgc
gccgctaatt agcttag

60
77

<210> 306

<211> 77

<212> DNA

<213> Artificial Sequence

<220>

<223> Retroviral vectors pBIB-KS1 modified to contain
Kosak translation initiation site and stop codons.

<400> 306

acggcggtgg taccttaagc tatagccttag ggacgtcttc gaactcgagc tcgcgcggc
gattaatcgat ctcagt

60
77

<210> 307

<211> 78

<212> DNA

<213> Artificial Sequence

<220>

<223> Retroviral vectors pBIB-KS2 modified to contain
Kosak translation initiation site and stop codons.

<400> 307

gatctgccgc caccatggaa attcgatatac ggatccctgc agaagcttga gctcgagcgc
ggccgctaatt tagcttag

60
78

<210> 308

<211> 78

<212> DNA

<213> Artificial Sequence

<220>

<223> Retroviral vectors pBIB-KS2 modified to contain
Kosak translation initiation site and stop codons.

<400> 308

acggcggtgg taccccttaag ctatagccta gggacgtctt cgaactcgag ctcgcgcgg
cgattaatcgat actcagct

60
78

<210> 309

<211> 79

<212> DNA

<213> Artificial Sequence

<220>

<223> Retroviral vectors pBIB-KS3 modified to contain
Kosak translation initiation site and stop codons.

<400> 309

gatctgccgc caccatgggg aattcgatat cgatccctg cagaagcttgc agctcgagcgc
cgccgctaa ttagcttag

60
79

<210> 310

<211> 79
<212> DNA
<213> Artificial Sequence

<220>
<223> Retroviral vectors pBIB-KS3 modified to contain
Kosak translation initiation site and stop codons.

<400> 310
acggcggtgg taccccttaa gctatagcct agggacgtct tcgaaactcga gctcgccgcg
gcgattaaatc gactcagct

60

79